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COMPENDIUM

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VRIL
ARCHEFORMS

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TABLE OF CONTENTS

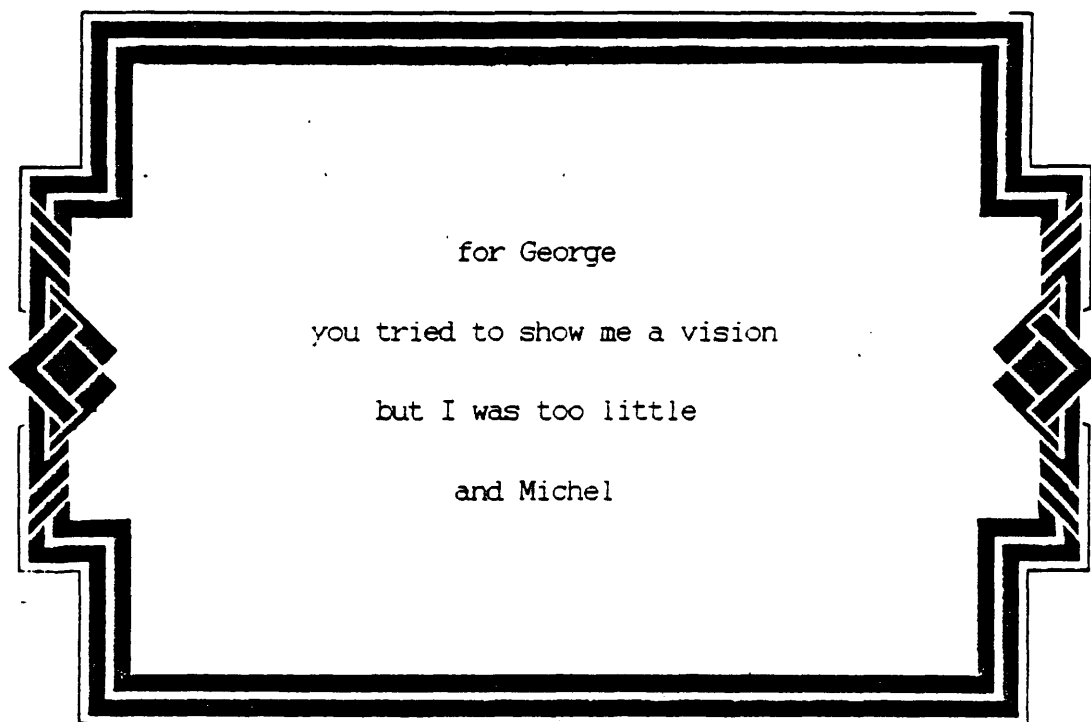
COMMENTARY

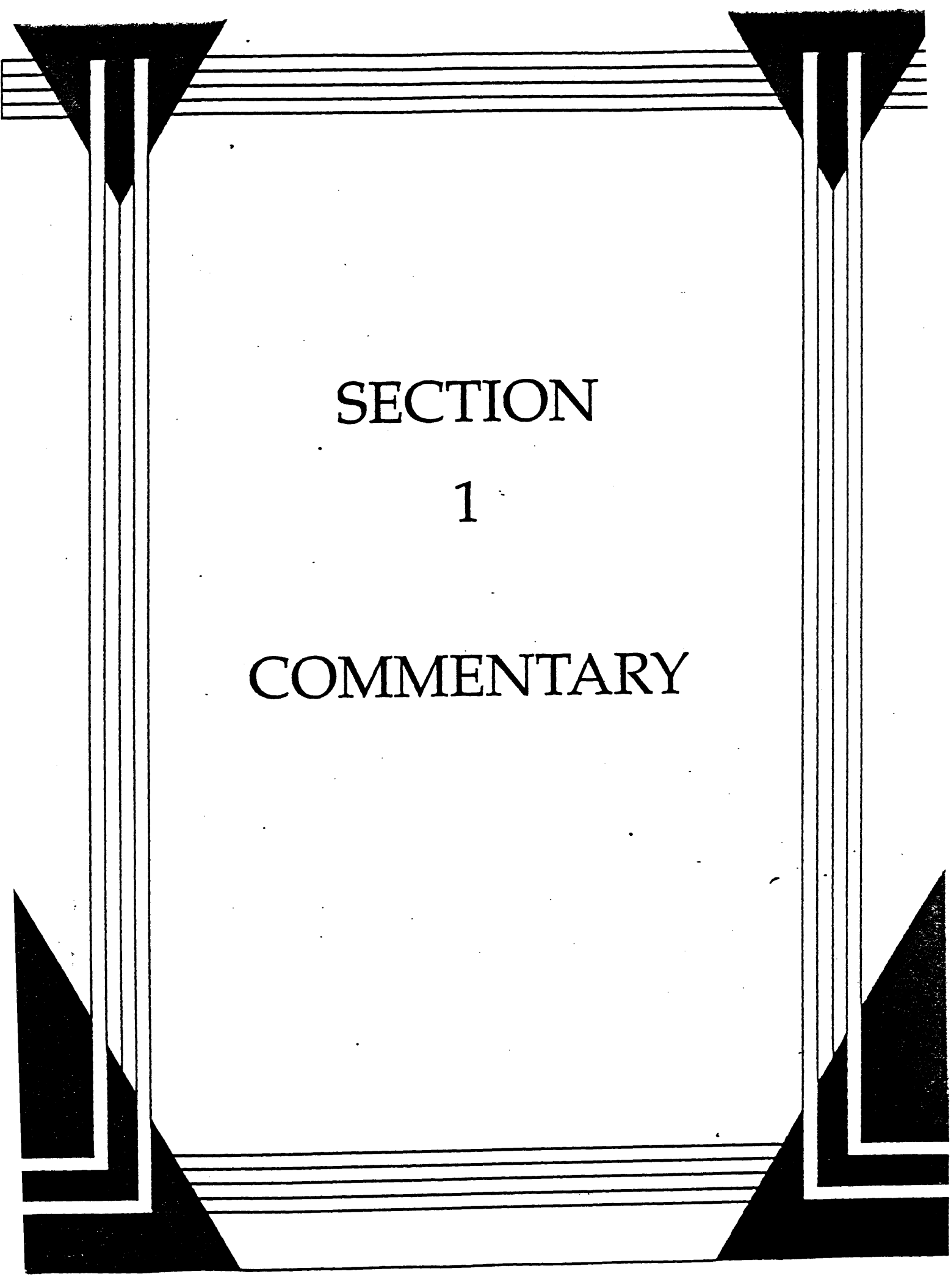
VRIL RECEIVERS

REGIONAL LINKAGE

VRIL STRUCTURES

SUBTERRANEAN HALLS





SECTION

1

COMMENTARY

Eidetically tunnelled experiences produce inertio-physical displays. Vril eidetic world transaction deform and distort the apparent world. Technological components successfully operate because of Vril conducted eidetic worlds. Energetic and material reactivities are surficial results of Vril eidetic world mergings. Technological componentry does not operate through mechanistic dynamics.

Mechanistic dynamics operate because of Vril eidetic world transactions. Ultimate human sensory experience discovers Vril eidetic worlds.

Deeper Vril meaningful experiences are organismically insensate. Vril eidetic world discoveries require contact experiences.

Vril thread mergings drive organismic neurology in primary experiential mode. Vril experience is true experience. Vril eidetic world connectivity self-permeates and self-suffuses. Vril world connectivities may be mutually transparent and co-existent. Vril generative orders exist as fixed templates.

Future Vril technology must be sensitively surrendered to the ordained pre-existent Vril causeways, channels, and junctures. Imposed and improper trans-connections must be avoided should powerful pure Vril engagement be our desired quest. Human organismic Vril projections move effortlessly into iron and ferruginous material. Early telegraphic and telephonic lines were entirely composed of iron wire.

Specific minerals and metals are capable of eidetically transacting the archeforms which physically and metaphorically manifest throughout districts and region. In specific regions specific materials must be preeminent in Vril designs for successful eidetic integrity. Vril regional boundaries are sharp.

Rheostatic entunement was used to entune meaningful supply of eidetic trans. Telegraphers erroneously assumed that rheostatic control was an electrical necessity. Radionists observed that organismic vitality as increased when humanly connected capacities were grounded at "rate-nodes" (R.Drown). Human subjects and objects absorb eidetic transaction through such nodal contacts.

Capacitors were used to ground telegraphic and telephonic lines. Their power as exceptional eidetic transactors is significant: providing sharpened and powerfully penetrating eidetic experience with great clarity along Vril channels (ground surface view). Capacitance values determines the degree of eidetic transaction among line-communicants. These effects become overwhelming when lines correspond with the Vril threadways of a district between stations.

Interleaved capacitors are but one variety. Each configuration provides distinct eidetic content as result of material configuration. Aerial disconnected minerals and metals give only visceral transactions. Identical grounded minerals and metals provide eidetic experience.

Telegraphic lines behaved as Vril inter-node connectors among stations. Eidetic experience of trans-district and trans-regional vantage were enjoined through telegraphic and telephonic connections. Vril threadways enjoined the elevated iron lines which spanned the miles between station houses.

Vril archetypical forms emerge when listening to music,

conversation, observing landscapes, and reading texts common to specific Vril regions. One learns to identify a specific "sense and feel" of a district through its cultural expressions of its eidetically projected archeforms.

Human organismic Vril projections move effortlessly into iron and ferruginous material. Early telegraphic and telephonic lines were entirely composed of iron wire. Specific minerals and metals are capable of eidetically transacting the archeforms which physically and metaphorically manifest throughout districts and region. In specific regions specific materials must be central in Vril designs for successful eidetic integrity. Vril regional boundaries are sharp.

Regional archeforms generate and guide their surroundings. Sensitives conform to archeforms and construct contemporary cultural extensions. Archeforms persist and permeate districts irregardless of time.

Vril technology requires fundamental knowledge of local Vril eidetic world terminals. Vril Axes are surrounded with inertial agglomerations. Inertial agglomerations distort eidetic experiences in projective spaces near Vril Axes. Vril points are inertia dissolving sites.

Vril eidetic transactions may occur with eyes opened. Caesium plates in vacuum achieve such Vril transactions (R.Drown, Vassilatos).

Several investigators have achieved eidetic transaction across space in absence of articulations. Vril eidetic world magnifications become luminous and overwhelming when properly arranged and transacted. Eidetic transaction is true television as originally envisioned by early researchers. Archaic legendaries reportedly were in possession of singular viewing stones (Prester John).

Vril designed reactive assemblages release transitions and potential regional permutations. permutations are permanent beneficial Vril transmutations of unexpected content and quality. Insensate Vril inflections bring unexpected transitions and inflections into our sensate experience of a region. Properly designed and modulated Vril transitions produce regionally dispersed permutations.

Vril reactive configurations and notable and startling in appearance. Vril permutations become unexpected Vril worlds.

Vril permutations increase in excellence. Combined Vril eidetic effects are exceeded in Vril permutational experiences. Vril permutations exceed the sum of configured eidetic worlds.

Material configurations bring eidetic worlds in proximal fusions. The mutually interblending of eidetic worlds so focussed and joined is the reactivity of eidetic worlds. Material configurations arrange the reactivity of eidetic worlds in specifically powerful Vril junctures. Vril permutations affect all related Vril worlds simultaneously. Distal Vril transactions do alter regional local consciousness.

Vril sensitives locate interactive sites where regional Vril transactions occur. Insensate Vril eidetic threadways focus human organismic attention along meaning-filled alignments. Great Vril operators are known by their ability to harmlessly experience eidetic communion despite high inertial densifications in situations.

Such Vril eidetic portions remain insensate to potential

participants. Vril Technology modulates consciousness. Vril consciousness is space-distributed in our world. Vril sensitives extend consciousness into spaces. Vril focussed consciousness transforms the degree of Vril eidetic experience. Powerfully focussed Vril threadways tunnel consciousness in powerful channels. Vril focussed attention tunnels the experience of the Vril sensitive, eradicates spurious inertial distortions of perception, and reveals the Vril eidetic junctures.

Alchymy observes the spontaneous emerge of new eidetic elements. Alchymy transmutes eidetic elements. Alchymy recognizes that eidetic worlds make the qualities observed in matter. Alchymy recognizes that matter is but the conductive (inertified) portion of an eidetic world projection. The material is not the essential element. The eidetic world is the essential element.

Mixing the strange presence of eidetic worlds has powerful repercussions in the environment. Reactions enjoined on mixing plates under specific Vril light are not pursued to determine what the inertified ash will become. The alchymyst observes the eidetic transformations enjoined when minerals and metals are brought together.

Vril threads generate, project, sustain, and influence geological forms. Inertial detrital discharges follow Vrillic patterns (lightning).

Water channels and courses follow and cooperate with Vril energetic ground patterns. Weather patterns are the result of mysterious Vril eidetic trans. and were the result of ground tuning from the telegraph station groundplate sites. Telegraphic stations are noumenous in appearance because they congeal, direct, and focus space-flooding Vril. Our being and existence depend on Vril concentrations. Vril eidetic worlds independently exist.

Vril eidetic worlds exist in absence of the minerals and metals which they project.

Minerals and metals are not the pure Vril worlds. Minerals and metals are not the pure eidetic world contents which are projected: they are the inertialized detrital condensations which are penetrated into inertial space.

Minerals and metals conduct eidetic content with contactees. Eidetic world content requires no effort. Interception of eidetic information channels requires specific metals and minerals. Special accumulators, capacitors (ground connected), tuning devices, and contact mediators are needed for the successful design of eidetic transactors.

Apparent reality can be distorted and warped. Eidetic imagery and experience teaches that world-experience is not a fixed rigidity. Eidetic experiences warp meaningful world-experience. Bilocal and translocational experiences could be effected through special magnifications of projected eidetic worlds. One becomes experientially "aspirated" into these worlds when magnification exceeds thresholds.

Total translations may occur in a rare native phenomenon observed in certain lands continually. The tales of "hollow earth", Agartha, the land of faeries, mount Olympus and other legend'ry are emphatic in report. The use of proximal metal plaques and Vril point focussers (rock walls) were historical. Received individuals would disappear for hours or days.

Returned to some related point, these persons would report "absorption into the walls".

Vril threads and threadways occur on the ground surface. Vril channels are found in the ground geology at depths not exceeding several hundred yards. Vril causeways are the vast regional axes which generate and sustain whole regions.

Specific eidetic transactions give strange symbols and mysterious significations (runes). Ancient hieroglyphic designs were etched into specific material plaques. These engaged organismic transactions in Vril eidetic worlds.

Specific Vril eidetic worlds release regional memories, facts, and revelatory knowledge. Specific Vril material configurations permit the experience of timeless travel among eidetic worlds. Vril operators conduct excessive degrees of revelatory knowledge.

Vril designers and Vril Scientists take especial regard to vril mergings and blendings within Vril systems. Vril designers must track Vril paths from organismic contacts with minerals and metals, through material masses, and down into the eidetic world foundations. Vril mergings are continuous, and may be tracked. Vril focussed awareness on Vril insensate generates perceivable spontaneous activity.

Organismic Vril mergings generate spontaneous Vrillic activities. Vril eidetic experience which suddenly reveal an entire pan-regional hegemony are special Vril eidetic experiences. Alterations in environmental conditions creates Organismic interference during eidetic trans. Organismic stability depends upon fixed proportions of inertia space and Vril eidetic content.

Organismic sensitivity includes interruptions due to musical tones, illuminations, color, and inertial detrital currents. Cathedral music was designed to be Vril-conformant.

Deepest Vril eidetic transactions reveal mysterious symbolological paths and metaphorically rich gateways. Etchings, geometric forms (runes) are thus transacted with the adept. Vril is the meaningful core of the universe.

Conscious reference determines experiential content. Vril Science recognizes only eidetic experience achieved through material contacts as accurate experiential reference.

Vril Science gives an experiential world-view which necessarily differs from objective models presented during the last 500 years.

The reality of eidetic transactions through material contacts annihilates the validity of our excessive reliance upon open-eyed information. The deep Structure of experiential reality is eidetic and vrillic in nature: differing from the 5-sensory experience of the apparent world.

Organismic modulation of native Vril provides organismic expression and exchange among juncture points. Vril operators manage the spontaneous entunement of specific junctures, obtaining experiential knowledge of distal events and circumstances.

Telegraph and telephone lines created ground standing conditions where vrillic energies consistently resided. Vril thread contacts envelop participants in communions. Vril responds to humanly arranged inertial interruptions for greater purpose. This Vril Law of sustenance is not mechanistic in

action. Vril is personable.

Inertial technology forces Vril auras to expand and contract.

Vril intent matches and surpasses inertial presence to preserve organismic regional integrity. Vril projects generativity and sustains worlds. Vril auras are tufted striations. Specific Vril auras contain pro-generative inflections during specific times. Native Vril states exceed all inertial empowerment.

Vril insensate threads are sensed as prickling sensations when contact is not well-designed.

Vril eidetic absorption expands consciousness in Vril eidetic worlds. Vril eidetic absorption eradicates simple inertio-sensory blocks. Vril Science is discovered via Vril eidetic connection. Minerals and metals, material configurations, and configurational alignment must be eidetically experienced, tested, and utilized.

The black radiance of space is the Vril projected space aura. Vril is the glowing blackness from which emerge experiences. Vril is the black radiance in which meanings are received. Vril black radiances emanate all worlds.

Alchymysts studied the eidetic transactions of elements and earth materials. They studied the eidetic transactions and not the dead ash which may be grasped. Ash degenerates. The eidetic essence of every material is an experiential substance which must be apprehended through communal interfusion. This is the secret of alchymy. The study of eidetic transactions and their manner of interwedding and blending produces exotic elements which defy chemical analysis.

Special places and materials have always been associated with heightened consciousness. The search for these artifices is Vril guided. Vril acknowledgement of surrounding space becomes true communion when Vril locates conductive materials and Vril active sites. There are such places and materials which so conduct organically projected Vril threads that the entire organism is permanently transmuted.

Technological systems are developed through the intuitive vision of Vril. Technological systems are Vril systems first and foremost. Systems operate at the most fundamental stages of being: geometry, position, alignment, material composition, arrangement, and combination. It is through these parameters that Vril is allowed expression. Vril Science is revelatory Science. Vril Science and Technology is only gained through vision, revelation, and personal transformation. Great time is required to receive these truths. Excessive experimental research does not grant such revelation.

The primary function of any design is the conduction and proliferation of Vril. Vril systems naturally display the conductive removal of detrital products. These detrital products result from interactions which occur between Vril and inertial space. The operative function of systems in degenerate modes may be unnaturally forced and maximized. The electrical mode of technological componentry is the very last degenerate stage of system activity. Extended eidetic presence reveals the unnatural presence of space resistance.

The greater Vril function of componentry remains lost and forgotten. The true operative function of fundamental environmental objects remains hidden to most. Vril threadways may

be mapped.

Consciousness is the fundamental Vril energetic quality. Vril is consciousness. Experience is the environmental measure of efficiency by which conscious energy is exchanged. Vril Science studies the foundations of being. Vril Science considers the transactions which occur within and among space and the generated realities within those space. Vril Technology devises the means through which being and consciousness may be brought to their intended levels of experience.

Each region is typified by specific geology, geological species, vril alignments, and eidetic transactions. Among the many experiential regions there exist more highly preferred regions. A region is an experiential holism of specific content and attribute. Regional experiential boundaries are sensed by sensitivities. Such sensitivities prove to defy national boundaries. Vril regions are mappable and possessed of boundaries which are self-determined.

On this eidetic sensitivity depend all the developments revealed in the VRIL COMPENDIUM. Without these eidetic sensitivities one loses the entire context in which this tome has been composed.

When we eidetically experience Vril we find ourselves translated into another space and experience altogether...another domain of power. This is the fusion with the universe of which the ancients speak. It is literal suspension within a glowing black space which is filled and flowing with created realities of all kinds. We freely translate through rare and ultimate experiences when in this space. Our correspondence with the apparent world becomes a mere facade for a reality whose presence actually permeates all that appears.

Its permeations thoroughly suffuse our every thought. Our dreams are composed of its substance. Our being is generated and sustained by its care. We may enter this experience through power points and specific designs. We thus may enter this metaphysical experience through "gates": places which correspond to its presence, diagrams, artifice (Vril accumulators, transducers, tuners), cluster chords, color chords, thought-forms...the ancient literature is filled with the means for entering this absolute reality.

The proliferation of many curious designs (which employ double, triple and even quadruple ground-plates for their operation) represent the most powerful suggestion of virtual architecture. The intriguing archetypal correspondence of (parallel) knife blades with telegraphic (parallel) ground-plates is just as powerful an association as when we compare (European) neolithic (parallel) evergreen groves and the (parallel) walls of Notre-Dame. The symmetry and function is not coincidental in activity. We learn about the Vril power and how to make use of its presence through such examples.

Power outputs obtained along these grounded lines greatly exceeded the power input through batteries in a dimension which cannot be measured: a Vril dimension of experiential power and manifestations. Who can weigh the force of a thought against a mere watt's worth of electrical pressure? Who can insist that a thousand volt potential exceeds the power of a revelation? Which is greater power...that which gives designs and revelation or the artifices of inertia?

VRIL RECEIVERS

Look at telegraphy designs as radionic circuits. Though marked by extreme simplicity and ruggedness they transduce great potential across equally great distances. When we examine the duplex and multiplex circuits from this point of view we arrive at very different perspectives than when looking from an "electric" viewpoint. Suddenly we are no longer interested in the minute details of the electrical exchanges and the maddening conduction paths (which defy experience and logic). We are viewing the radionic functioning of the circuitry in whole perspective. we see the sections as wholes...as aggregates and cavities of resonance rather than as singular paths of conduction. These systems of telegraphy (and their components) were capable resonators of the Vril power.

The curious manner by which we may best examine the patents (seeing whole portions of circuitry rather than specific little activities therein) seems to indicate the nature of the power which forged the system. Remember most of the telegraphic developments originally emerged from dream impressions and visions. therefore it is crucial that we recognize the holistic signature of the power which forged the system. We can easily achieve this awareness by seeing (not independent little "electrical" activities: internal paths and shunts, vibrations, and reactions) but by grasping whole portions of the diagrams given.

Confusion between Vril activity and electrical impressments caused early electrical engineers to imagine that empirically discovered efficiency equalled "electrical efficiency". They do not. The empirically discovered means (for enlarging and enhancing telegraphic signals) had nothing to do with electrical signalling at all. Yet, it is difficult to convince most conventionalists of these truths. Why? Do not certain Vril systems operate in electrical (inertial) modes? They do. Where do the differences substantially diverge? How were the differences ever merged to begin with?

Telegraphic systems worked because they served Vril principles...not electrical ones. Empirically discovered components and their (apparent) functions were not thoroughly examined to discern the important differences. It was assumed that these empirical functions were actual indications that the components (coils, resistors, batteries, plates, etc.) were performing electrical work functions. In fact they were not. They worked in spite of the electrical impressments. Yet what did we find historically?

Vril power is equated with the functional service of material forms. Historical evidence proves the ancients to have achieved this equation. We will find an amazing repetition (of symmetries and forms, patterns and shapings, functions and abilities) when comparing the functional elements of telegraphy and wireless with the functional elements of ancient architecture.

Vril is the powerful reality through which many had been receiving bilocal impressions of the most powerful sort. The telegraph line could transfer "dreams and visions" from far off places. Operators frequently thought themselves to be going mad. We may infer by these several patents the mannerisms and requirements by which Vril energy interacts with applied

electro-stimuli on grounded conductors.

The concept of communicating at a distance is as old as the mythologies themselves. The vision of resonant crystals (gazing spheres and stones) have been retrieved from the archane chambers of time in which they were buried. This concept of "action-at-a-distance" was quizzically challenged repeatedly throughout history. The last derisive attack was heard just after the phenomenon of wireless commenced: in 1862 when the discoveries of Mahlon Loomis were attacked by the Smithsonian Institute.

The "tsuringas" of the Australian Aborigine are matched by the European devices anciently used in temples throughout the Western World. These persist in legend and myth and are the dream tokens of a forgotten technology. Tolkien mentions the "palantiri" (gazing stones), Prester John used "seeing stones", H.G.Wells wrote an entire short story ("The Crystal Egg") on the wonderful topic, and numerous investigators (R.Drown and G.DelaWarr) produced mysterious photographs through equally mystifying technological means. The geometries of temples, specially aligned and constructed of specific matter, gave great power to those sensitives whose genetic predelictions enabled them to see at a distance.

Telegraphic systems were originally conceived by medieval and renaissance thinkers, who saw some revelatory glimmer in the phenomenon of magnets and compass action. The concept that lodestones could be made to correspond with spatial resonance was a profound revelation for the times in which it was received. The notion that lodestones could be separated and yet remain in mutual correspondence was the basis on which telegraphic and wireless arts were later based. These were esoteric revelations which partake of the science which treats of earth, planets, stars, and active space...indeed the experience of Vril operators. These early visions of crystal-correspondence and space-resonance dealt primarily with the more excellent Vril form of connectivity and continuity which we are again fortunate to examine in our day.

The bibliography of the past is invaluable toward achieving sumnal revelations: sudden holistic configurations of thought in which all the anomalous parts seem to "spring" into coherent form. These coherent forms are infrequent but powerful in their advent. They represent some sensate portion of an archeform from which the pieces of discovery are to be derived.

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Telegraphic systems were originally conceived by medieval and renaissance alchymysts who experienced the eidetic phenomena inherent in magnets. Lodestones could be made to eidetically correspond at great distances: a profound revelation for the times in which it was received. The notion that lodestones could be separated and yet remain in mutual correspondence was the basis on which telegraphic and wireless arts were later based.

These revelations can never be comprehended unless on the basis of eidetic transaction. These early visions of crystal-correspondence and space-resonance dealt primarily with a more excellent form of connectivity and continuity which we are again fortunate to examine in our day.

The externalization of the mind and senses to reach beyond one's self and fuse with the universe is only possible in the Vril channels and threadways of the environment. These interperce the environment along specific and long-heralded fixed positions, whose legendary life-generating powers are well-known in each land. Marked by monuments, stones, boulders, temples, municipal structures, cathedrals and universities, these Vril points permit enhanced fusion with the universe.

Learning the Vril methods at these sites is pivotal to acquiring the coveted knowledge of Vril fusion. Those who so engage become especially empowered to work socially transmutative changes through technological means alone. Thus (at a great distance from cosmopolitan centres) one may arrange for life-raising life-generative changes which affect nations and regions.

Such operation demands that inertia be broken. This requires not only proper placement (with respect to Vril points) but also technological appliances of definitive design.

Archetypes and their presence produce astounding transactions in experiential space. The re-structuring of our own order seems indicated. When archetypes are revealing themselves everything is in fusion. The entire feat is wondrous and highly stimulating to cultures in which these metaphysical events are focussed. Indeed the movement and activity of archetypes forms the last step in the process of civilization. Coming through metaphysically intense hieroglyphics the archetype engages all possible connections with contemporary themes.

That this is a mystical process is characterized by the fact that all sensitive persons sense the coming change...but no one individual is the source. The collective aspects of the archetype indicates the fact that the effect is psychospatially distributed: a proof that space is endowed with sensation and consciousness. All that we experience and sense is generated...in the spaces: the anciently accepted reality. In the mysterious manner (which may never learn) the archetype becomes an entirely different character with new potentials which never before appeared.

Researchers who discovered that certain kinds of (earth induction) were "anomalous" were baffled. Empirical inventors took these anomalous instances and worked them into equally strange apparatus. These form the bulk of our bibliography. The Vril functions of telegraph systems and their components forms the basis of an immense revelation. The telegraphic systems represented the first instance in which large trans-regional systems were interconnecting earth and city-centers directly. In addition, we find the trans-national interconnections and even the trans-oceanic connections which so gripped the minds of the day.

First and foremost therefore the telegraphic communications systems were Vril connected systems. Intimately fused with the ground power they transduced its energetic persona directly between towns and (especially) sensitive operators. The primary power which operated in these systems did not require application of electricity at all. If not for the human failure to consciously sense and operate with this power we could have seen astounding fulfillments years before our time. The nature of these Vril energies have not been discussed before with any great depth.

That the telegraphic system can (and does) operate in an empathic manner is demonstrated by the findings of several notable researchers: although these are thought-connections rarely discussed in this regards. Galvani, Mesmer, Baron Karl von Reichenbach, and others discovered something distinctive when using connections between their apparatus and human subjects. Whereas von Guericke would use electric pressure to "shock" people into (dangerous) insensibility, there were individuals whose central interest lay in the vitalizing aspects of certain "worked" devices.

Dr.A.Abrams and his experimental arrangement for entuning thought-forms: another step in a progressive movement toward empathic transmissions. With wired attachments (to the bodies of separated individuals) Dr.Abrams literally demonstrated that thought-forms could be holistically transferred. These through-line transfers exceeded the thought-transference commonly called "telepathic" (through space alone). The interposition of minerals and metals and special components (rheostats, variable resistance bridges, minerals, organic matter, etc.) enhanced, amplified, and clarified the same signals.

Somewhere in his studies of electricity (1830) Lindsay was struck with the notion of utilizing "electricity" for special modes of lighting, motor-power, and communication. We hear his pronouncements on the future use of electricity when prophesying that electric lamps "...ablaze with the light of the sun neither hampered by weather or any natural conditions ... will light the night world and banish fear...". Yet it was Vril which gave the vision. It was Vril which glowed in the mind. And it was Vril which was to reveal a far greater technology.

Descriptions of his ideas on electrical technology reminds one of the flair and vision expressed by Jules Verne in his wonderful novels of both future and meta-terrestrial worlds. Mr.Lindsay suggested that submarine cables might be laid between land masses while using "earth batteries and bare wires" as the means for power transfer. How he managed to

receive this grand leap of wisdom and vision remains the hallmark of the mental alchymyst: the reception of Vril mind runes, symbols, meanings, and message.

Earth batteries are electrical short-circuits. The use of metal plates to "attract the earth currents" was mentioned by several inventors (Strong). Earth batteries and aerial batteries produce each their own proportions of visceral, eidetic, and inertial products. Earth batteries transact Vril viscero-eidetic energies.

Earth and aerial "batteries" were configured in various material geometries to produce specific proportions of inertial detritus. Some of these were configured to transact with inertial vortices (Dieckmann). The development of small and compact earth battery and early rheostatic rate tuners proved capable of transacting Vril eidetic world archeforms.

They have been used to boost the organic integrity and health of the body (G.Starr-White). They may function as therapeutic devices. Earth battery arrangements have been used in both the diagnosis and therapy of the human organism (R.Drown). Earth battery design forms have been discovered in Pyramids and Gothic Cathedrals. These massive designs exceed their function as generators and sustainers of regional mind transmutations.

Earth batteries may be designed to magnify the inertial vortex components (Dieckman) of the ground. They may be used to magnify human communications across vast reaches of ground via Vril (Stubblefield).

The anomalous accumulation of static across grounded telegraphic aerial lines is noteworthy. Aerial batteries and earth batteries are not primarily and fundamentally electrical in activity at all.

Earth batteries do not derive their electricity from any electrical currents in the earth, neither do they derive their potent amounts of electrical power from electrochemical actions which would be better served in isolated solution-filled tanks. The energy of earth batteries is primarily Vrillic. They are configured to channel detritus into appropriate utilities. Earth batteries were also designed for therapeutic effects.

Such configurations transacted powerful eidetic experience through physical contact. Buried minerals and metals when properly aligned and mutually configured produce superior and surpassing eidetic transactions which incidently raise organismic integrity. Earth batteries secure Vril in its most potent form and make it available at ground surface. Earth batteries are conductive links with Vril channels. Direct contact with these designs affects permanent beneficial changes in the capacity of the mind.

Earth batteries extend the sensitivity and vision of the human organism across vast regions of ground. They promote bilocal vision and synaesthetic communication of exceptional clarity. The extraction of inertial detritus from buried earth batteries cannot be electrical in origin and cause. Vril impaction of buried minerals and metals releases inertia on contact.

Minerals and metals respond to impaction releasing energetic currents of inertial condensations. These are not all particulate in nature.

Visceral currents were reported by Galvani, Mesmer, and

Stubblefield, and G.W.Starr-White. The popular Victorian use of the term "electricity" was adopted by those sensitives who used the word when referring to viscero-eidetic natural energies. Dowzers "feel the rays ... feel the currents". Galvani and Mesmer also "felt the rays ... felt the currents" while across the space between metal plates and poles.

The inertial fractions and detrital products of earth batteries is anomalous from the electrodynamic viewpoint: earth batteries are short circuits. Earth batteries are directly connected with the ground. This is supposedly the way in which charges are drained away from charged sites. The paradox of grounded drainage and elevated charge accumulations reverses when considering that the buried cables of Samuel Morse actually "accumulated so much static charge that signals were impossible".

The furtive signalling of unattended telegraph block receivers was a mysterious excursion in the language of the ground itself. The ground spontaneously would release several concise coded signals of no certain content. Telegraph operators were familiar with this sort of natural language. Mystery messages were noted at times with specific intrigue.

Mesmer's battery released a visceral, non-detrital unipolar discharge. Reich's orgone "accumulator" configured specific transactions which were primarily visceral in effect. Essential vitalistic batteries are various classes of Vril transactors. These must remain connected to their parent generative sources.

REGIONAL LINKAGE

Cities, towns, villages, metropolitan areas are Vril interconnected. Ground and space Vril distributions governs the vivifying supply which both extends existence and activity to those places. Comprehension is required to know the ground structure which densifies Vril channels and connects regions and districts together.

Vril transacts with the natural media. Vril threadways wind through buildings. Vril threadways utilize passageways, hallways, stairwells.

Vril threads move through cities and building like black twisting ivy. They necessarily incorporate themselves among every humanly arranged artifice and project of construction for the sustenance of organismic integrity. Vril eidetically transacted archeforms are agencies by which experiential space may be locally transmuted.

It is demonstrated that similar equally powerful transactions have been effected through the use of small eidetic world transactors. These reactors and tuners are not costly and have tremendous ability to focus archeforms in the absence of the need for massive shelters.

Vril eidetic worlds blend. Combinations of materials and geometric configurations encourage eidetic world blends in a small district. Transference of eidetic world archeforms into the infra-structure of the apparent world gives demonstrated effect throughout a district. Geometric runes may be impressed upon inhabitants of a region through the activity of a single individual.

Such socially extant proliferations occur with great frequency when artists operate at specific points.

The geometric structures and mineral compositions of Gothic proved powerful in the entunement of eidetic world contents. Both exteriors and interiors of Gothic cathedrals prove their focussing potential. The resulting impact of transacted eidetic worlds upon inertial space brings totally altered consciousness of a raised permanent nature to any locale desired.

Vril eidetic worlds blend. The apparent world folds and distorts, fades, and dissolves, when blends are magnified. Such disappearances and appearances occurred at specific Vril configured points. Noumenous objects are Vril conductive objects. Specific materio-Vrillic contacts release forgotten knowledge. Specific materio-Vrillic contacts re-familiarize participants with lost awarenesses.

Excessive inertial concentration brings depression and inappropriate behavior patterns. Regional Vril ground modulations heals away inertial rigidifications in a region. This occurs natural during eidetic world surges. Vril technology does effect regional changes on behavior patterns. The elevation of regional consciousness is a primary goal of Vril Tech.

Organisms constantly materially contact Vril eidetic worlds through connective discharges. Vril eidetic experience is organismic infra-consciousness. Vril eidetic world experiences are dream-foundations which are essential to organismic integrity.

The regional musical transmission of holistic intelligence of the deepest sort was attained in Gothic Cathedral systems through Vril point-connections. The huge monolithic components of Gothic Cathedrals were activated by specific harmonic systems organismically expressed by adept-operators.

Vril continuities and holisms are evidenced as chunking of system components. Meanings crystallize in systems. Portions of whole meanings crystallize in specific components. These may be isolated and experientially examined. Separating such components of Vril dense configurations result in loss of context and meaningful system operation. This is especially apparent in written minerals and metals: where separating single sentences suffices to derange the reader's continuous meaningful transactions.

Education is not the tool through which humanity must be consciously raised. Vril technology alone can sufficiently raise the social mind on a regional scale. Material systems are fundamentally Vril transactive systems. Minerals and metals are Vril projected cascades.

Detrital products are not Vril system fundamental. Inertial technology employs inertial-detritus as a working substance. Geometric natural configurations produce exceeding Vril eidetic potentials. Vril eidetic transactor designs may use geometric configurations, etchings, carvings, and sculpted forms to dissolve detritus. Natural minerals and metals surge and transact with local sensitives. Sensitives and visionaries may be drawn into eidetic translations when ground material eidetically surges.

Certain sensitives access ground crystals and modulate eidetic translations to achieve extraordinary actions throughout a district.

Ground appliances must be equipped with inertial eradi-

cators and conducting channels if eidetic experience is to be maximized. Improper configurations produce dangerous inertial and impaired eidetic experience.

This is a view-channel universe. Vril eidetics permit structural viewing of the universe through material windows. Vast eidetic communion is achieved when examining Vril hieroglyphic plaques in the presence of potent Vril thread discharges: this was the foundation ancient Vril technology and system of communications.

In ancient systems of Vril communications ancient Vril operators were able to obtain bilocal distal experiential information. Ancient astronomers were travellers, not catalogers of transits. Planetary configurations were alchymical combinations which produced new eidetic elements. These new elements were transitory and capable of being enhosted in specific substrates (waters, mineral powders, metal plates).

Improper configurations remove possible new eidetic elements needed on earth toward the achievement of rare operations. Vril projects through space at points to generate, sustain, and build up materials. Certain ground batteries are the sites of prolific transaction which lead to transmutations.

The metals prove the independent existence of their parent eidetic worlds.

We can arrange the existence of the projective worlds in eidetic reactions and blends. Metals are inertial agglomerations which densify their eidetic world qualities.

The world is flooded with eidetic images. The world is flooded with eidetic images. Stars project stored knowledge. Ancient star-gazers were eidetic recipients who employed towers, staves, rods, aerial spears, sceptres, altars, helmetry, jewel studded body armor, Vril nodal sites, aligned natural ridges and other artifices for direct personal transaction with stars.

Vril transaction is guided experience through Vril eidetic world landscapes. Sacred arts musicks are significant in their powerful Vril channel engagement and entry. Vril junctures and natural Vril eidetic nodes absorb such Vril active vocal expressions.

Other musical forms are not absorbed in such fashion or accepted by them. Free standing Vril ganglia may be sighted among evergreen tress.

Deep and liquidly glowing black Vril caverns are the cause of most eidetic experiences concerned with subterranean caverns which are never found physically.

Sensitives locate spatially clustered Vril nodes. Sensitives identify Vril nodes as expansive conscious radiances and derive eidetic transactions.

Time is a Vril sensation and place. There is a sense in which Vril eidetic experience of deep grounds brings with it ancient sensations. There is a sense in which spaceward eidetic transactions bring with them futural sensations. Stars may themselves be pure Vril projected minerals and metals. The deepest foundations which surpass the deepest inertified earth stratum may be made of pure Vril projected minerals and metals.

In such experiential examinations of our apparent world and its horizontality, we place cardinal axiomatic regard upon

eidetic transactions received up through the natural ground media directly. In this Template of consideration we experience the mechanism and structure of the ground itself as device. In accessing these deep conscious earth functions we rely on knowledge which enables the ground-surface access of these very deep quasi-physical strata.

In the eidetic world experience the appearance of sphericities and inertio-surficial convolutions ("curved earth, earth as globe, planets as globes, space as spherical...") are often absent and experientially unimportant. Vril Light is formative radiance. Vril Light gives eidetic translation among and through Vril Templates.

VRIL STRUCTURE

Arcade, nave, choir, portal, catacomb, transept, triforium, arch, crypt, clerestory, chevet, buttress, choir, aisle, vaults, altar ... all the symmetries of Gothic Architecture are portrayed in telegraphic art design. The manner of portrayal is their manner of physical disposition. Spatial transactions are projected through these physical dispositions. Telegraphic stations (often mere shacks in the woods) were enhosted with virtual architecture of Crystallographic virtual Cathedrals form about telegraphic line anchorages form up from the ground and remain convoluted about the aerial connections as virtual architecture. Gothic forms of the rectangle (Buckingham). The emergence of corresponding empathic arches (Lockwood).

We may adopt an even loftier and most fundamental view of these designs: comparing them indeed to the ancient symmetries. When this is done an amazing similarity immediately leaps up at us from the pages of drawings. We may view the designs of the COMPENDIUM as symbolic architectures in experiential space: active, effective, and dynamically involved in mutating and modulating our consciousness. When we adopt a "hieroglyphic stance" we find in these patents even more astounding symmetries. These (which appear repeatedly in every Vril design of the ancient world) shock our awareness into recognizing the space we have discovered and the means for entering it.

Practice seeing the circuit portions as if they were solid pieces of architecture: the walls, halls, arches, and tunnels reminiscent of cathedral structures. This is the Vril functioning of the systems you examine. Do this consistently with every system you examine throughout the COMPENDIUM. It is the only means by which you will grasp the true significance of these archane developments and designs. It is the only means by which you will comprehend my theme and purpose throughout my writings. Taking this Vril view we can easily extinguish the habitual "electrical" reference, in which most people become confused and entrapped.

Vril virtual structures are exceedingly organic and polycrystalline: having a wondrously irregular and dysangular form.

In the tunable componentry of telegraphy there was realized a means by which tunable virtual transformative enclosures could be structured, strengthened, maintained, and frequented without the need of erected material architecture at all.

Virtual architecture materializes around the telegraphic system represents the emergence of Vril eidetic world transaction of surpassing depth. These forms appear crystalline when contacted they alter consciousness. Persons who frequent these sites are themselves transmuted individuals. Gifted with exceptional sensitivities such persons often are the very ones who receive Vril revelations and design Vril technologies.

Medieval architects captured somewhat of these crystalline virtual forms in massive structures of special rock. Virtual architecture requires little more than proper (minute) material configurations capable of entuning archeforms.

Properly grounded and aligned these bring Vril eidetic transactions of deepest potentials into a district. Cooperation and respectful regard for ordained Vril points must precede such concerted efforts and operations.

The goal of such Vril technology is the powerful elevation of regional technology.

Intelligent devices partake of Vril transactions and appear capable of expressing meanings through their super-radiant transactions. Telegraphic stations often arranged the emergence and transaction of Vril eidetic archeforms. telegraphic stations surrounded their operators in the whole geometry of raised Vril archeforms.

Repetitive forms manifest throughout vastly diverse technologies. Specific archetypic forms permeate and persist continuously throughout the historically developing emergence of technologies. We see in several telegraphic and telephonic systems archetypic forms which are circuit-equivalent of Gothic vaults and buttresses.

In most of the designs of Elisha Grey we find the persistent permeation of Gothic designs and symmetries. Arched circuit diagrams are not very unlike the detailed profile of an immense Cathedral vault, buttresses, arcades, choirs, and transepts are virtually duplicated in telegraphic designs. Such striking similarities are direct eidetic transactions of the very deepest sort, and point with unerring accuracy at their parent source. Vril is the permeating transactor in human affairs. What societies and cultures lose, Vril retains. We are continuously bombarded with these singular truths among our centuries of faltering development.

The lines along which Gothic Cathedrals were constructed resemble the lines along which telegraph systems were organized. Telegraph lines became most eidetically transactive when conforming with Vril juncture requirements. certain telegraph lines operated entirely without electrical activations.

Cathedral structures enlarge Vril generated auric components but not Vril itself. Throughout the patent record and the annals of archane history we discover the permeating existence of forms whose functions reveal this truth. The message of the symbols and geometries which some have received in deepest vril contacts reveals the regional archeforms as agencies of power.

Telegraphy and telephony used such dendritic articulated threadways, although these were humanly constructed and articulated. Vril self-articulates its own patterns and forms in mineral solutions (Kolisko). Vril self-articulates its own paths through the ground and in minerals and metals provided for

specific Vril transactions.

The arch and the parallel plate form permeates and persists throughout history as a special Vril eidetic transaction. This form appears in ancient architecture of temple sites, Gothic Cathedrals, and in designs perfected by Stubblefield. Distal grounded arches remain in meaningful correspondence via Vril transactions. Experiments with arches and yokes of iron have proven these forms capable of propelling eidetic transactions along a tightly tunneled experiential path. One "sees through the walls" and travels swiftly along a very tight and smooth passage which runs along the ground to a great distance from the experiential contact point.

Vril virtual forms are entwined for their eidetic transactivities alone. The massive structure of Gothic Cathedrals relies upon geometry to achieve eidetic transaction on a vast scale. The eidetic interplay and transactions of Vril worlds amid materio-resonant cavities, sinuses, chambers, vaults, arches, halls, shafts, crypts, ribbings vastly exceeds the eidetic potential of free space. Vril-conductive labyrinthine arrays are necessary to specific Vril transactions.

Nothingness is the Vril all-possible. Nothingness lies beyond the insensate. Vril generates from nothingness. Vril generates and sustains environments. Differences in natural eidetic experience produce cultural differences. Difference in national consciousness are the result of forgetting ancient Vril technologies.

The natural consciousness of separate regions and districts proceeded apart through time. Specific regions fell into specific inertial conditions as a result of increasing ignorance concerning Vril technology. Differences in such natural consciousness have separated nations and are responsible for the social discord within and among nations. Inertialized and rigidified conditions continue to densify in the absence of corporate efforts to dissolve the true enemy. Inertialized intelligence perceives Vril power to be "weak and mystically ineffective".

Vril technology raises conscious potentials by merging and transmuting regional eidetic experience through dimensional translation of archeforms into a region. Systems of education, bureaucracy, geopolitics, finance, are incapable of raising human consciousness. Vril technology opens the human conscious potentials by exposing regions to fundamental Vril eidetic archeforms. Civilization depends upon Vril eidetic transactions for conscious expansions.

Vril art and Vril technology are one and the same. Vril Art transforms the unsuspecting beholder through eidetic transactions. Vril Art effects regional changes on unsuspecting inhabitants when properly aligned and configured.

Vril eidetic transactions of archeforms can be conducted through special geometric configurations. Vril transmutations do take place through such forms. Such Vril transmutations effect whole regions permanently. Operators who effect such regional transmutations have been rarely known. the changes which they have secretly effected remain.

Towers are aerial batteries which act as aerial Vril anodes and cathodes. These design forms link ground Vril with other space. Vril extends upward through these components into other space directly. Human operators within such designs

experience extremely heightened vision, conscious extension, synaesthetic sensations, and anomalous energetic reactivities. Lighthouses are sites where Vril activities can become extreme (M. Theroux).

Certain Vril grounds are distinctive. Viewing the heavens upon Vril points yields dramatic experience of celestial realities. Ancient observatories were specially placed near Vril point altars. Certain places marked sites where Vril contact between ground and stars had been identified and localized. Altars as Vril contact points are everywhere marked in the ancient mapworks. Vril altars which were dedicated to specific planets and stars are historically extant. Vril altars which were dedicated to specific mind states and Vril space qualities are less well recognized. Vril points mark intersections where Vril threadways are directed vertically through the stratified apparent world. It is possible to construct shared vision space where Vril threads import bilocal experience to a fixed number of exposed persons.

In these temple spaces it may be necessary to enclose a special number of persons. The use of pattern-engraved plates of grounded metal serve as communicators. Deep ground Vril channels require deep preparations and excessive technologies. Gothic crypts and grottoes were attempts toward the use of Vril deep channels. Locating and modulating the Vril Prime Axis was the ultimate desire of Cathedral builders and operators.

Vril channels were singular and specifically branched when all matter was made in fixed sectors. The removal of materials from parent bodies shears and separates Vril channels into fine support threads. Such generative and supportive Vril threads proceed from metaphysically depths and are maintained in deeper Vril eidetics.

Vril differentiations occur along conduction paths. Vril differentiations produce vast potentials despite initial Vril intensities. Vril reaction requires eidetic node configurations. Vitality of immense degree results when small intense Vril transactions are directed. Such isolated intense reactions necessarily involve the very ground and space together when so directed.

Vril cience is entirely based upon humanly valuable experience. Vril science subjectifies the objective. Deep ground Vril channels require deep preparations and excessive technologies. Gothic crypts and grottoes were attempts toward the use of Vril deep channels. Locating and modulating the Vril Prime Axis was the ultimate desire of Cathedral builders and operators.

Vril channels were singular and specifically branched when all matter was made in fixed sectors. The removal of materials from parent bodies shears and separates Vril channels into fine support threads. Such generative and supportive Vril threads proceed from metaphysically depths and are maintained in deeper Vril eidetics. Vril Templates explain the mutual permeation, interdependence, and independence of specific and distinct Vril frames.

There are nodes, junctures, and points in which several Vril Templates meet and coalesce. These are extraordinary and special points. Specific thread traces become maddening

to sentient beings. Specific materials provide conductive paths which relate among the eidetics. Consciousness is experienced in staged Vril Eidetics. Vril virtual tuners focus Vril transactive presence. Vril virtual forms are entuned by special designs. Vril virtual forms define eidetic content and experience. The entunement of Vril virtual forms does not require physical structure. Vril virtual forms are experienced amid special tuning assemblages in the absence of physical structure.

Vril dendritic distributions fractures the inertial space. Vril fractures persist in all physical and metaphysical directions. Eidetic upon Eidetic the worlds of Vril archeforms are experienced. Vril generates and sustains matter. Vril Eidetics build upon each other with stages of eidetic contents and consciousness. Vril enters all materials in higher transactive eidetics. Vril self-inflects and self-permutes.

Vril experience is mostly insensate in quality. Vril experience begins when the human organism contacts eidetic transactions. Eidetic transactions project insensate vril threads through space. The human organism does not immediately perceive insensate Vril threads. Vril vision proceeds in staged sequences. We are drawn into sudden holistic realizations of Vril presence.

Cathedrals magnify visceral experiences in excess. Specific Cathedral points release the eidetic contents. These were reserved for the adepts and operators of the site. Eidetic imagery and receptions were arranged en masse when specific musical harmonics are sung. Musical tones stimulate the mass receipt of a singular consciousness.

Nothingness is a potential filled with sensation. Vril generates being out of nothingness. Vril etched contact plates are hieroglyphically articulated. Sensitives envision (in these especially activated designs) whole forms and meanings of a runic nature. Vril self-articulates in aerial-ground transitions and in material contact assemblages. Eidetic imagery is the fundamental activity of minerals and metals and material configurations.

Most human potentials find expression via Vril technology.

All technological components fundamentally operate in Vril conductive modes. The naturally construction of early technologies represent intuitive made strong-Vril participations. Art is fundamentally Vrillic. Design is fundamentally Vrillic. Mathematical code and symbology is inertial.

Arches interconnect Vril ground concentrations. These provide excessive power within Cathedrals. Vril is conducted into, across, and down through large stone arcades. The interconnection of local Vril points raises specific archeforms. Archeforms raise consciousness into rigorously stabilized states. Vril point interconnections are not always quadri-rectangular in orientation. It is not proper to impose pre-conceived design ordinances upon the Vril natural environment.

Inverted arches interconnect aerial Vril points. Outer roof ornamentation of Gothic Cathedrals are always provided with aerial terminals. Aerial terminals connect Vril threads with aerial dendrites. Arch conducted Vril passes through these conductors and can reach out into space if the energy so intend.

Arch roof construction is provided with aerial connective terminals. Dr.Mahlon Loomis raised similar forms into the

aerial Vril distribution to achieve long range telegraphy without wires or power sources. Ancient Vril eidetic technology employed natural stone gaps, grottoes, caverns, mountain escarpments and other natural sites where Vril junctures could be approached and entered. Powerful engagement of eidetic worlds bring regional transmelding power into the operator's reach.

Vril eidetic world threads project through generated minerals and metals. Minerals and metals are Vril projected. Material configurations (architecture) effect powerfully specific visceroidetic transactions.

Each region reveals specific eidetic world surges. Each region is suffused in specific archeforms which determine eidetic transactions and receptivities.

Metaforms and archeforms eidetically translate into surroundings when properly engaged through eidetic nodes. Metaforms and archetypes alter local consciousness and permit open-eyed eidetic experience among pluralities of unsuspecting participants. Archeforms and metaforms penetrate and transmute inertial experiential spaces. Metaforms eidetically maintain their content irregardless of position and sensitivity.

Vril regions are known by their specific eidetically projective archeforms. Archeforms in specific Vril districts and regions are everywhere evident. Vril technology enhances awareness through eidetic trans. The transaltion of Vril eidetic archeforms into the inertial environment proves to have excessive power in the elevation of social consciousness.

Archeform translations via material configurations represents the first step toward the development of superior mental states, social levels, and the production of special minerals and metals. The impressment of Vril Archeforms through regions via Vril devices impresses these eidetic experiences on inhabitants for purposes of increasing sensate experience while raising and modulating consciousness.

Geometrically configured minerals and metals develop modified Vril visceroidetic potentials. Each region is typified by specific natural archeform: a geology. Geological species, Vril alignments, and eidetic transactions.

Among the many experiential regions there exist more highly preferred regions. A region is an experiential holism of specific content and attribute.

Regional experiential boundaries are sensed by sensitives. Such sensitivities prove to defy national boundaries. Vril regions are mappable and possessed of boundaries which are self-determined.

The architecture historically developed in each region is Vril archeform specific, and delivers organismic ease of transaction for the eidetic worlds specific to each region. Architurogeometric configurations determine eidetic integrity and eidetio-organismic regional transactions.

District Vril alignments reveal powerful permeative connectivities with ground geology and space-configurations. Stars and planets transact potent Vril streams of eidetically rich content. Minerals and metals correspond with stars and planets because they become the means in which specific stars and planets may be eidetically experienced. Holding various metal staves aloft will entune each specific star and planet into a

powerful eidetic experience.

The eidetic worlds are set and fixed among their numbers. Though the detrital hills may dissolve yet these Vril World mountains and peaks remain. Archeforms and crystallographic pyramids are the peaks of vast Vril topographies which are visceroidetic and whose foundations are timelessly ancient. This topography is quasi-material. This topography connects with the stars.

The emplacement of componentry in Vril threadworks releases exceptional eidetic trans. Most material configurations engage Vril experiential eidetics at the ground surface. Vril capacitors of rock and cut stone act as simple transactors. The most fundamental vril eidetic transactions are ideational, revelatory, metaphysical, and symbolological. These eidetic transactions emerge from the deepest hierarchic eidetic worlds.

The content and experience of eidetic worlds transmutes in time. Minerals and metals exist in conscious states. Vril transactions are meaningful to recipient minerals and metals.

Space levels, terminals, and componentry are composed of Vril solids. Archeforms are hierarchic Vril structures. Vril requires conduits, materials, and proper alignments for its proper utilization. Metal plates through which Vril transacts become Vril engraved hieroglyphs of superlative mystery. Human organismic interactions with such designs release revelational experience of highest degree.

Material configurations (architecture) effect powerfully specific visceroidetic transactions. Each region reveals specific eidetic world surges. Each region is suffused in specific archeforms which determine eidetic transactions and receptivities.

At the glowing center of the regional Vril archeforms (crystallographic pyramids) is found a special black pool of generative Vril: the exceptional presence desired by each living sentient being.

Vril inflections in deep space or deep ground channels generate transactive eidetic projections. Space is a Vril-dendritic mass. The ground surface is traversed with horizontal and vertical Vril threads. Sentient experience is derived in and among these Vril-ganglionic interconnections.

Vril inflection sites release eidetic transactions. Such sites become Vril thread connections through human aid. Vril technology is participation with Vril itself. Human agency cooperates and co-structures with Vril intent. Vril responds to human need. Vril generates and sustains human consciousness.

Vril points release special permutative and generative powers. Vril power is released to human benefit when properly detected and joined to appropriate artifice. Cooperation between human agency and Vril generates civilization.

Vril activations are achieved through Vril Technology. Vril Technological artifices are driven into Vril active points. Access to Vril points releases Vril to the needs of the surface. Vril eidetic transactions are experiential spaces. The glowing black Vril eidetic node is the fundamental conscious state. There are endless Vril Eidetics in the black glowing Vril eidetic transactions. Black glowing spaces are the ultimate resonant Vril nodes.

Vril Eidetic transactions are Vril discharge sites. Vril eidetic transactions are released near Vril inflections. Eidetic transactions signal the emergence of Vril permutations. Vril permutations reveal unexpected powers, qualities, and attributes in conscious space. manifest their attributes at the ground surface in specific points. These points contain insensate Vril threads which generate sensate eidetic manifestations.

Insensate Vril threads may emerge from the deep ground or from deep space. White raysheaths are Vril trails in the dissolving inertia. Vril megalithic stations required no attention through the centuries. Archaic Vril technology was specifically activated and entuned by a group of sensitives who possessed the artifices of activation. Megalithic stations did not remain dormant in the absence of their operators through time.

Vril generates and sustains the experiential universe. Vril dendritically distributes itself throughout the experiential universe. The Vril dendritic network permeates all spaces. Vril is distributed in all dendritic directions. Vril projects through the ground surface at ordained points. Vril vertical points are numerous. Vril vertical points are distributed across the ground of each Vril region.

Vril regions are characterized by specific attributes and archeforms. Archeforms stimulate and elevate the human organism into special conscious Vril Eidetics. The human mind and experience finds firmament within these Vril Eidetics. Vril Eidetics are structured in hierarchic relationships. Vril Eidetics mutually interpermeate and suffuse. Greater degrees of vision are found in more fundamental permeations. Deeper fundamental Vril Eidetics grant greater experience. Vril archeforms each frame specifically transactive thought structures. Vril archeforms are each the foundations of specific awareness. Each Vril archeform relays transitions to the related adjacent archeform structure.

The universe is structured through the metaphysical Vril presence. Consciousness permeates all materials to specific given range and depth. The human consciousness is a partial interception of space-distributed Vril consciousness. Human conscious stage may be entuned in greater Vril transactive spaces. Spaces are Vril generated eidetic transactions. Black glowing spaces are Vril ultimate densifications.

Vril Eidetics may be entuned through appropriate material artifice. These artifices are most potent when effectively connected into Vril active points. Vril active points may be in aerial space or dense ground. Vril Technologies are most effective when interconnecting available Vril points. Vril Technology has located deep Vril causeways. Vril Technology make use of available ground-surface Vril points and threadways.

Consciousness is drawn into deepest Vril filaments of exceptional potency. Vril consciousness unifies all sentient participants into these loci. Experience of these potent Vril filamentary causeways is translatory. During such Vril correspondence local apparent realities vanish. Vril entunement is achieved through material artifice.

Conscious entunement effectively raises local and personal awareness. Consciousness displays transactive levels in space. Consciousness displays transactive terminals in space. Consciousness displays transactive componentry in space.

Regions of ground co-relate through deep Vril Eidetics. Regions transactive with one another as Vril maintains self-generative potentials. Civilization requires the Vril presence for eidetic vision and cultural theme. Life processes rely upon Vril activity above ground. The surface of the earth has become highly inertialized. Vril conductivities at the surface do not reach potential intensities required for sustaining life and meta-cognitive processes.

Ancient technology partly answered this need. The megalithic system was a Vril inspired response to the demand for increasing the meta-cognitive potentials of emerging societies. The desire for increased potentials of Vril vision and eidetic content resulted in the massive construction projects responsible for megaliths.

Megaliths were ideally suited for Vril system survival across the centuries. Megaliths are massive, irrepressible, able to withstand conquests and climactic change, and require little attention for their activation. Megaliths are incomplete in their present form. Megaliths required special ancillary devices for their entunement and operation. We do not see these entunement designs in their intended place.

Megaliths provided conscious communion with Vril. Megaliths provided empathic inter-communion among selected members of the sensitives. Megaliths employed specially engraved metallic plates and gem-studded artifices as empathic transceivers. These devices were guarded closely by the hierarchy who held the secrets.

These empathic modulators and eidetic imaging plates were artifices made through rare alchemical process to achieve and maintain regional and inter-regional Vril Eidetics. Equally precious designs were employed for the initiation of Vril activity among the terminals and stations of the archaic network. The use of costly jewel-encrusted ground rods brought Vril the required surface potentials.

The megalithic systems maintains its spontaneous activations of surface conditions. These activities have been severely hampered through lack of control. The Megalithic system often displays wild and erratic influence on surface conditions across large regions of ground. Weather conditions and disruptions of consciousness are often experienced near and around the rocks. The forgotten means for initiating and entuning the system are lost.

The Megalithic Vril System is the last surviving remnant of the archaic technology. Surface conditions of nations have been severely altered through inertial technology. Industrial advancements have torn up the ground so much that Vril surface communications have been drastically reduced. In some cases Vril activity has been removed entirely.

Vril communicates within its own channels. Vril internal responses are observed in certain locales. These responses, surges, and local vivifications of surficial ground are furtive. Rarely observed are the strong and overwhelming Vril surges required to raise regional consciousness. The loss of international harmony, cultural theme, personal guidance, and conscious integrity are the chief results of Vril surface withdrawal.

Vril generates and maintains expanded consciousness. Vril accelerates cultural progress beyond expected range. Vril

Technology elevates cultures beyond historically recorded levels of attainment. Vril Technology supports new cultural stages of attainment. Civilization falls when Vril Technology is neglected.

Vril is the working substance of consciousness-expanding Technology. Submerged Vril must be raised from the depths. Vril threadways must be joined to the surface. Vril threadways must be provided with terminals and communicative artifice in the service of civilization. Ancient Vril systems and technologies demonstrated their power and adequacy toward conscious elevations.

Legend mentions the realities of the archaic Vril Technology. Mythologies recount the true history of Vril Technology and involvements with it. Incursions of spiritual warfare, of strange creatures and beasts, of magickal Vril artifice, and mysterious meta-dimensional transportations resulted from the improper use and unattended operation of Vril Technology.

The European Cathedral System was the last great pan-regional expression of Vril Technology. Secrets of its true organization, purpose, and operation remain the coveted secret of a few individuals. Those who frequent the Cathedrals do not suspect the true power contained and transduced through the sites themselves. Communing with Vril brings expanded consciousness and ability.

Natural configurations exhibit conscious eidetic conductivities. Minerals and metals such as striated gneiss, wood and striated stone behave as semi-intelligent presences. Devices, minerals and metals, and configurations which partake of Vril eidetic transaction behave as quasi-organismic personae.

Cathedrals are designed upon Vril-active groundpoints. Cathedrals alter the Vril activity of entire regions. Learning occurs in cathedrals as holistic Vril Eidetics of shaped space. Vril revelations are experienced as sequences of conscious eidetics. Eidetics are space distributed. Eidetics generate archeforms.

Vril passageways open experience to higher Vril Eidetics. Vril passageways diverge along multiple threadways. Vril threadways emerge from ground and traverse space. Vril threadways permit the extraordinary experience of sensation. Stars appear unnaturally brilliant when viewed along specific Vril-active grounds.

Inertial space distort experience. Inertial space distort Vril forms and intent. Inertial space are dead and resistive to Vril permeations. Inertial space remove sensation and being. Our world has been permeated with inertial space.

Each substance has eidetic content. Configured together they release strange and unexpected reactivities. Vril reactivities must be subjectively experienced. Vril generates electrical detritus as a last stage of manifestation. Vril is the immense power which is not utilized by humanity in this century. Vril is the civilizing power. Vril aggravates inertial polarizations when impacting and penetrating inertial space.

Archeforms express the innate Vril forms which generate and sustain each specific region of ground. Grounds and regions differ in aspect and attribute. Vril Eidetics reveal conscious stages and levels which transect inertial space. Human experience and consciousness tunnels through Vril

Eidetics. Human consciousness cannot tunnel through inertial space. Vril transactive devices enable human consciousness to rise through successive stages of awareness.

The entire race of humanity has not successfully risen through all the Vril stages. These successions of transactive achievement do not rely upon race, creed, color, or any other inertial boundary which limits humanity. There are in each group and tribe of humanity excellent examples of those whose initiation and progress in Vril Eidetics stands as legend. Vril is generative energy. Vril generates genetics and environments. Vril corrects material genetic defects and raises the minds of those who allow its passage.

SUBTERRANEAN HALLS

Telegraphy was a grounded system. Both aerial and subterranean cablery was developed. Telegraphic aeries transacted aerial Vril matrices of junctures and nodes. Aerial telegraphic terminals were Vril suffused through groundplate contacts. Telegraphic cables passed through Vril concentrations, junctures, and nodes to transact meaningful supply with terminal stations and main exchange offices. Telegraphic and telephonic systems became quasi-organic entities through Vril enhosting presence.

Telegraphic lines became the available means through which the Vril worlds were constantly maintaining strong eidetic dialogue with inhabitants of each district. Telegraphy curiously resembles Romanesque and not Gothic until a much later period.

Vril energies are found deep in the earth where they arc across Vril chambers. There Vril sensitives and adept operators of exceptional strength seek special audiences with subterranean Vril eidetic worlds. Excavation of the crystal ground componentry is devastating in unrecognized relational regions.

Nothing can harm the deepest Vril causeways. Excavations of metal ores, mineral deposits, and crystal caverns has wrought immeasurable damage to districts in unknown conscious foundations. Telegraphy displays numerous Gothic features in its designs. Stained glass windows (Delaney). The apse with tunable coil-transactor (Buckingham). The choir loft (Field). Notre Dame in profile (Nicholson).

The thought of the earth-machine stirs our hearts and minds to lofty heights. Through this comprehensive archetype we glimpse the function and purpose of each mineral deposit in far deeper terms than as ordinary resources. Through this sweeping view we understand that the world is a functioning transducer...of powers we have yet to comprehend or appreciate. Most likely these functions literally involve our own consciousness and being in ways we have never begun to imagine.

Comprehending the specific placements (of mineral deposits, crystal caverns, and metal lodes) demands deeper study. The enunciation of questions is demanded by the presence and activity of these immense powers. Their formation and placement was a crystallized correspondence to a pre-existent pattern. How were these minerals and metals crystallized directly from space? Serious re-examination of geological principles is necessitated. Comprehending that observed sub-

terranean heat is not developed as a result of radioactive minerals and metals seems indicated.

Do transmutations of minerals and metals occur in subterranean depths with quiet and routine earth dynamics? Are the metals of earth undergoing a constant regeneration and transmutation? Those who exercise their discernment agree that these effects are occurring constantly in the subterranean chambers beneath.

We also need to realize that the persistent (inertially measured) "evolution of heat" from the earth is indication of an anomalous presence. Potentials for developing a new alchymical science is inevitable among us. In meta-terrestrial dimensions we are often found dreaming: thrust there through the Vril power which guides our thoughts. The potential for comprehending the Vril communications system is here.

Vril threads become especially sensate and active in stone wall cavities, crevices, faultlines, and ground scars. Energies acoustic, magnetic, and electric do not thoroughly penetrate the body. Vril threads thoroughly penetrate the body. Uttered organismic sounds evoke sudden Vril symmetrizations which linger in the environment. Vril surges also evoke the human organism to emit "power vowels": those most primitive and elemental vowel utterances.

Ground cracks in rock and stone are capable of transacting powerful eidetic messages when approached at specific distances. Plural participants suddenly conversationally polarize when near such features. It is not difficult to imagine why ancient sensitive often sought such places out for receptivity: gaps emanate such Vril transactions.

The need for excessive articulations of code is eradicated through Vril modulations. Vril designs its own hieroglyphs. Eidetic contents are directly transmitted to recipients through Vril articulated designs. Vril culture consists in absorbing and communing with pure Vril eidetic contents.

Vril generates rocky matter and the immense pressures which spilt rock. Vril contains the motive strength of the universe. Vril generates pure heat and cold. Deep Vril channels are vibrant. Vril deep channels demonstrate sudden movements which may be felt throughout the organism.

Vril threads arc and discharge through buried telegraphic and telephonic line conduits, across and through tunnels, and humanly arranged roads. While haphazard construction often deranges and disrupts natural Vril threadways, human artifice and misled intentions can never harm inaccessibly deep Vril Causeways.

Striations and capillary laminations effect powerful Vril eidetic trans. Careful examination of buried telegraphic and telephonic conduits (as well as aerial telegraphic and telephonic arrays) reveals the intuitive dendrito-organismic configurations which merged well with natural Vril threadways.

Railroad tracks appear to "swim" before the eyes whenever Vril transactions surge in them. One may watch iron rails shudder with the sudden and spontaneous procession of rail-traversing "brightenings". These Vril transactions drag the eye along in visceral correspondence. Such surges pass up and down the rails in rapid successions and may pass back and forth in irregular numerical sequences. They usually precede the

appearance of an approaching train.

Eidetic transactions occur train rails and telegraphic lines alike. Each terminal of multi-locational potential. Vril eidetic transaction are effortlessly conveyed along the iron paths of each system and are especially transacted at terminal stations. Terminal stations (train, telegraphic, telephonic, and radio) are exceptional transactive sites for bilocal experience.

It is not uncommon to sense distant cities at these very sites, receiving eidetic experiences while walking about a major railroad station. It is not uncommon to receive bilocal experiences while walking about a telephone exchange terminal or radio tower.

Vril threadways in the ground create black vividness. Overlying objects and organisms become strongly enlivened and visually sharpened. Vril engaged objects become quasi-organismic and semi-intelligent. Dream-deep visions and such eidetic experiences emerge spontaneously from the very deepest ground strata where Vril Causeways are vibrant and potent.

Deepest Vril Causeways are dangerous and must never be touched by frail humanity. These have been ordained and placed out of reach. Insensate Vril Causeways flood and criss-cross the upper spaces. Corresponding transactions occur among Vril Templates. Vril projects ground...but ground also inflects Vril.

Material configurations do re-determine Vril transactivity in a region because of the terminus opened to our world by deliberate ordination. The human ability is the re-configurational ability. We can and do alter natural configurations. Our previous blind efforts have their true source as Vril intuitions with the ultimate goal of realizing a grand unified Vril technology.

Vril is our being. Vril is ground concentrated and ground projected. Experience is Vril referenced. Gothic Cathedrals evidence awareness of Vril transactivities. Gothic Arches are supplied with external projections to permit transactions with insensate Vril threadways.

Black wavy lines signal the presence of insensate Vril transactions. Such wavy lines are inertial dissolutions and create disturbing effects. This is apparent near faultlines and earth scars. They are often confused with heat waves and are found throughout the natural environment in a great many material configurations (Blondlot, Reich). Though often producing visco-sensate heat, objects and faultlines transact such manifestations and are cold to the touch.

Various suspended minerals and metals align themselves amid the Vril active matrix. Different minerals and metals reach different rest-alignments. Sounds also achieve self-directionality in the Vril matrix. Specific tones are observed to assume specific paths and patterns in visco-experiential space. Such self-articulation and self-directionality is the Vril transactive attribute, observed in all Vril communications systems.

The environment may be toned by the use of appropriate Vrillic transactors. Excessive inertial concentration brings depression and inappropriate behavior patterns. Regional Vril ground modulations heal away inertial rigidifications in a region. This occurs natural during eidetic world surges. Vril technology does effect regional changes on behavior patterns.

The elevation of regional consciousness is a primary goal of Vril Technology.

Vril eidetic topographies are perceived by Vril visionaries, and are entuned through devices made by visionaries. Sharing and discussing eidetic experiences make these worlds concretely cultural. Special regard must be given when eidetic open-eyed experiences intensify the appearance of objects.

Eidetic experiences often reveal a specific neighborhood place or juncture. Such places are Vril notable points and must be visited for further research. When there, one must perform experiments designed to allow open-eyed eidetic transactions. Portions of the eidetic environment which overwhelm must be noted. These represent items which are distinct in the Vril eidetic world.

Future Vril technology must be sensitively surrendered to the ordained pre-existent Vril causeways, channels, and junctures. Imposed and improper trans-connections must be avoided should powerful pure Vril engagement be our desired quest.

Amerindians perceived the growing threat to natural vitality which certain telegraphic lines inertially projected...and tore them down. The Amerindian use of totems and totem systems strangely mirrors the inertial system called telegraphy.

Blocks of granular substances gradually become Vril conductive. Buried matter is Vril suffused. Houses and other enclosures become permanently polarized to conduct Vril through time. Specific material configurations and enclosures grant specific Vril eidetic transactions. Vril operators and their apparatus permanently alter Vril distributions in enclosures.

Vril devices fluoresce in eidetic images and experiences. Certain material configurations require resonant distances for eidetic transactions. Such transactions occur in absence of physical contact and are prized. Vril correspondence between ground threads and aerial threads are implied. It is difficult to track the flow of Vril threads during eidetic experiences. Eidetic experiences are overwhelming and highly prized: they are the humanly valuable elements.

Mere observation of Vril thread activities and dynamics does not suffice our Science. Vril thread dynamics and Vril-motive articulations express mysterious significations and unknown patterns. While absorbed in a specific eidetic experience others may observe entirely misunderstood Vril thread motions in that volume of experiential space. Vril synergisms which bear no comprehensible relationship to an eidetic experience may be observed while others are engaging eidetic experience.

Vril eidetic experiences and perceptions of celestial space occurs upon specific tracts of land. Eidetic transaction from stellar configurations to specific ground points is historical. Eidetic experiences with opened eyes explains the true quest and achievements of ancient astronomers whose eidetic communion with stars and planets surpasses the mere surficial inertial examination of those objects. These sites also explain the true quest for surpassing communication systems toward which early wireless discoverer were reaching.

Exceedingly deep Vril channels are humanly reached in natural settings (caverns, grottoes, canyons, ravines, natural wells). The crypts which lie beneath Cathedrals (Romanesque

and Gothic) permitted deep Vril channel access to specifically adept individuals. Vril is transmaterial. Vril is transactional. Vril transports experience beyond the apparent surroundings: translating its recipients into vastly deep and variegated eidetic impedes topographies.

Regional permeating Vril impulses alter states of matter, organismic and conscious states simultaneously. Impressions which begin as pre-imaginings and semi-sensate intuitions begin to emerge as eidetic transactions. These very deepest of Vril transactions are highly rhythmic and complex in their messagings. Like the rhythms inherent in speech, these expressions of mysterious significations are not audibly heard but become states of being.

Great inertial accumulations are consistently found at specific locales. We find these detrital accumulations near specific regions devoid of ore, mineral, and crystalline rock substructures. Alchymical runes were derived from eidetic experiences of the deepest sort. Vril is the civilizing power. Vril projects, generates, and sustains matter and is the immense power which splits matter apart.

Alchymical runes were derived eidetically through Vril extreme transactions. These are found deep in the earth. When engraved, structured, or embodied in sculpted material form such runes become the means through which extraordinary holistic knowledge is communicated to us. Such symbols and runes are conduits which directly stimulate transactions in the human Vril sensory system.

Socially significant dynamics message to us through such forms when Vril activated. Such receptions make and elevate civilization. As we progress toward eidetic-holistic gifts we discover that scientific method becomes increasing less effective as a valuable commodity by which to plumb the true

foundations of conscious experience. Vril is meaning.

Spatially distributed Vril threadways and their nodes and junctures may be mapped. We may track ground surface vril lines with ease when sensitive to visceral sensations and urges. Sensitives may use special iron rods to help focus and sense the abdominal reflexes which guide discovery of district Vril alignments.

The massive pyramidal crystalloforms which appear to emanate from ground, ridge, hill, and mountain points, converge upon mysterious aerial foci. Such foci as emanate a mysterious warm and luminous radiance are sometimes observed on cloudy days.

Human attentions are often drawn into these aerial Vril nodes.

Vril threads arc across natural gaps and canyons, grottoes, crypts, and vaults. Sensitives intuitively desire entry into such highly eidetic transactive volumes of space. Virtual crystallographic manifestations endrawn Vril sensitives.

There minds experience the very deepest among the eidetic transactions. Vril causeways can never be disrupted. Vril generated ground-crystallography has been disrupted. The removal of ores and crystal caverns through blasting has brought ruin to yet unrecognized portions of the regional ground hegemony. Artificial vascular conduits and matter-articulated ganglia formed the telegraphic cable arts. Mapped Vril threadways maintain their position throughout history.

Dreams and imaginings are distortions of real Vril eidetic experience. Vril threadways form dreamlines. The fixed alignments and positional rigor which Vril eidetic world display demands reinvestigation of heliocentric models and all inertial cosmogenies.

SECTION
2

VRIL
RECEIVERS

WITH MR. ALEXANDER BAIN WE FIND THE FIRST INSTANCE
WHERE EARTH BATTERY DEVICES WERE UTILIZED
IN DERIVING ELECTRICAL ENERGIES FROM THE GROUND DIRECTLY.

(640) Mr. Alexander Bain (in whose behalf Mr. Finlaison's pamphlet was written,) has considerably distinguished himself by his ingenious applications of Electricity to practical purposes. Some of the facts which he has described relative to the earth as a conductor and permanent generator of voltaic Electricity are new, and not unlikely to be of importance in a practical point of view. Whilst prosecuting some experiments with an electro-magnetic sounding apparatus, in the year 1841, it was found that if the conducting wires were not perfectly insulated from the water in which they were immersed, the attractive power of the electro-magnet did not entirely cease when the circuit was broken. With a view of ascertaining the true cause of the phenomenon, Mr. Bain, in conjunction with Lieutenant Wright, made a series of experiments on the Serpentine river in Hyde Park, and after verifying their former observations relative to the remnant of power in the electro-magnet when contact with the battery was broken, the electro-magnet being on one side of the river, and the battery on the other, the wires passing *through* the river; and after making other experiments, in which the water and the moist earth formed part of the circuit, and wire the remainder, it occurred to Mr. Bain, that if a positive metal were attached to one end of the conducting wire, and a negative metal to the other, and if the two metals were then placed in water, or buried in the moist earth while the connecting wire was properly insulated, a current might be generated. This was found to be the case, for when a large surface of copper was placed within Kensington Gardens at the one end of the river, and within Hyde Park at the other end, a similar surface of zinc, and the metals connected by a wire, in the circuit of which was a galvanometer, a current of considerable intensity was found to be passing. The experiment was next tried on a more extended plan; a surface of zinc was buried in the moist earth of Hyde Park, and at rather more than a *mile distant*, a surface of copper was buried, and the metals were connected by a wire suspended on the railings; when the plates were large, Mr. Bain not only obtained the usual electro-magnetic effects in an enhanced degree, but also succeeded in the performance of electrotype operations; for in the course of a few minutes he coated a half-crown with copper. Subsequent experiments have shown him that if the metals are thus buried, and connecting wires are employed, electrotype depositions may be effected, and electro-magnetic apparatus worked for a great length of time.

(641) Mr. Bain has patented several applications of Electricity to useful purposes, amongst others an electro-magnetic *printing* telegraph, which, in July 1841, was exhibited and lectured on at the Polytechnic Institution, and an electro-magnetic clock, which was exhibited and lectured on in March of the same year: both of these instruments

THESE STRANGE DESIGNS REQUIRED NO ATTENTION, COULD OPERATE FOR YEARS
WITH STEADY OUTPUTS, AND WERE FOUND NEVER TO CORRODE
IN THE USUAL ELECTROCHEMICAL MANNER.

evinced a very superior degree of ingenuity on the part of the inventor. The printing telegraph (for a full description and engraving of which we must refer to Mr. Finlaison's pamphlet) consists of three principal parts. First, the rotatory motion given to the type wheel, step after step like the seconds hand of a clock until the required letter arrives opposite the paper. This motion, Mr. Bain has since superseded by a continuous uniform motion regulated by centrifugal force. Secondly, the means of inking the types, or otherwise making permanent the imprint of the type upon the paper. Thirdly, the motion communicated to the paper so as to bring a fresh surface under the types and receive the printed intelligence in a continuous spiral line, until the paper is filled; thus producing in print, precisely as in the pages of a book, the letters composing the message. A peculiar feature in Mr. Bain's telegraph, and one in which it differs from all others, is the substitution of *wire coils* freely suspended on centres for electro-magnets; these coils, within and in the vicinity of which, are fixed powerful permanent magnets are deflected as long as the electrical current is passing through them, but when the electric current is broken they are drawn upwards by the force of spiral springs; levers are released, and the machinery of the telegraph worked by mainsprings, are left free to rotate. The only battery proposed to be employed by Mr. Bain is a pair of copper and zinc plates, one of which is to be buried in the earth at one station, and the other at the distant station, where there is to be a telegraph the exact counterpart of the first, and with this he expects to obtain an electric current of the required energy.* A continuous flow of Electricity through the wire coils, when the telegraph is *not* at work keeps them constantly deflected; but when a message is

* We fear that Mr. Bain will be disappointed in this, should he erect a pair of his telegraphs at great distances apart. Mr. Finlaison, indeed says, (see page 34 of his pamphlet,) "If a copper wire one-sixth of an inch in thickness, be imbedded in a bar of boiling asphaltum, and sent along the railway (for its better protection) from London to Liverpool—if two tons weight of zinc plates be immersed in the Mersey at Liverpool and attached to that end of the wire—and if a ton weight of copper be sunk in the river Thames and attached to this end of the wire, no rational man can doubt that an electric current would be established of ten times the power necessary to work a telegraph." Every electrician, however, knows that the resistance which the Electricity would meet with in traversing such a length of wire would be very great, and that such resistance could not be overcome by increasing the *size* of the battery plates, but only by adding to their *number*; should, therefore, the experiment be tried, is it exceedingly probable that however carefully the uniting wire were insulated, no trace of Electricity would be detected. Mr. Finlaison, does not, however, lay any claim to the title of an electrician; had he been one he would not probably have written the following: "May not the mere contact of the respective plates with moisture excite an electrical activity of the metallic particles without any oxidation taking place?—and

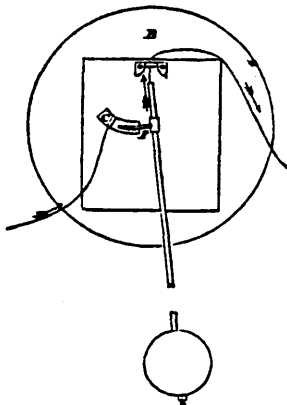
VRIL IN THE GROUND MAY BE DRAWN AND ENTUNED BY THE MERE PRESENCE
OF SPECIFIC METAL (AND CHEMICAL) ARRANGEMENTS.
THE MERE GEOMETRIC CONFIGURATION OF SUCH MATTER
IS SUFFICIENT TO TRIGGER WHITE RAY-BLACK RAY
REACTIONS WHEREIN VRIL THREADS ARE GENERATED
AND RELEASED.

to be transmitted, the operator by drawing out a metal pin from a hole in the dial of his machine, interrupts the circuit and the machinery is put in motion and continues so, until by inserting the pin in the hole under the signal which he wishes to communicate, the operator closes the circuit and both machines stop instantly.

(642) Mr. Bain has also invented a pendulum which is moved by a metallic surface in the moist earth, of no more than four or five feet; he intends to apply it to telegraphic purposes, and expects by its agency, to be able to discard wheels of any and every description, as well as electro-magnets. Another of his inventions is an instrument which he calls a voltaic governor, from its power of controlling the electric force as the governor of an engine controls the force of the steam. Hitherto, the only method of adjusting the action of the constant voltaic battery to the work to be done, has been by taking advantage of the modifications of a chemical character, of which the various elements are susceptible; by means of Mr. Bain's instrument another power is brought to bear, viz. a *mechanical*, and the two forces are made to counterbalance each other and produce an equilibrium or given constant action. As our space does not admit of our giving descriptions of these two ingenious instruments, we refer our readers to the second number of the Electrical Magazine, and proceed to give a short account of another of Mr. Bain's inventions, viz. his electro-magnetic clock.

(643) *B*, Fig. 234, is a back view of an ordinary clock, with a pendulum vibrating seconds; *C*, a plate of ivory affixed to the frame of the clock, in the middle of which is inserted a slip of brass in connection with the positive pole of the battery. To the pendulum is attached a very light brass spring *F*, in such a manner, that every vibration of the pendulum brings the free end of the spring into contact with the strip of brass, thus completing the electric circuit, which is broken as soon as the spring touches the ivory. A series of *electric clocks* may be connected, by means of the wires, with this clock, and if a voltaic battery be included in the circuit they will all go together.

FIG. 234.



may not oxidation itself be the effect, not the cause of such electrical action, so originating in the mere contact of the metals with moisture, the action being greatly increased in energy when the liquid is acidulated? The writer has seen the current produced through the earth so instantaneously that there was not a moment's time for oxidation." (See page 35 of his pamphlet.)

FIG. 235.

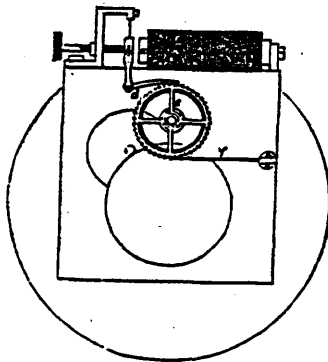


Fig. 235, is a back view of one of the electric clocks. *a*, is an electro-magnet, and *b* its feeder suspended by a spring, pendulum fashion; *c*, is a small screw to regulate the distance of the feeder from the electro-magnet. At the lower end of the feeder is jointed a light click lever *d*, falling into the teeth of a ratchet wheel *e*; *f* is a spring to keep the ratchet wheel steady. When the pendulum of the clock B, Fig. 234, sends an electric current

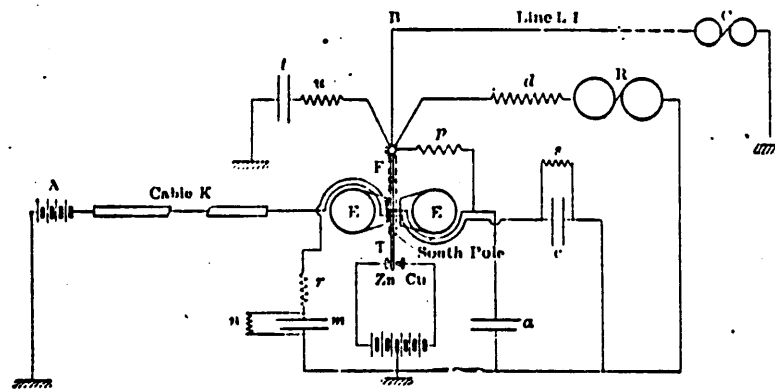
through the conducting wire, the feeder is attracted by the magnet, and the click lever *d*, takes over one tooth of the ratchet wheel; upon the current being arrested (by the spring *F* of the pendulum, leaving the slip of brass in the primary clock,) the feeder falls back into its former position, and causes the click lever to draw the ratchet wheel one tooth forward. The arbor of the ratchet wheel carries the *seconds' hand* which is thus taken forward one degree every second, corresponding to the vibration of the clock B. A pinion on the ratchet-arbor gives motion to other simple wheel-work which carries the minute and hour hands. When a large number of clocks are to be worked the ratchet wheel is placed on the arbor of the *minute hand* and is moved every minute instead of every second. An ivory circle with slips or studs of metal, inserted flush with its face, corresponding to the number of clocks or group of clocks intended to be worked, is fixed on the face of the regulating or primary clock; in the centre of this circle is placed the arbor of the seconds hand of the clock, upon which is fixed [a slight metal spring with its free end in contact with the ivory circle. The conducting wire from the positive pole of the battery is in connexion with the framework of the clock; every time, therefore, that the seconds hand passes over a metal stud in the ivory circle an electric circuit is completed and a current transmitted to the clock or group of clocks in connexion with that particular stud. As the seconds hand passes over every portion of the circle once in each minute, the whole number of clocks thus connected with the regulating clock will be moved forward one degree every minute. By this means a large proportion of electric power is saved, for the battery has only a single clock or a small group of clocks to work at the same instant of time.

WE OF COURSE PREFER NOT TO DEGENERATE VRIL THREADS INTO BY PRODUCTS
AND DETRITUS...ELECTRICITY AND MAGNETISM.

WE DESIRE TO EXPERIENCE VRIL AS IT IS...PURE AND ORIGINAL
SPACE CONSCIOUSNESS.

A REMARKABLE EXTRACT WHICH REVEALS THE USE OF WHITE RAY AND BLACK RAY REACTIONS
IN TELEGRAPHIC RELAYS...AN AERIAL REACTOR WHEREIN VRIL THREADS
ARE BOTH GENERATED AND HARNESSSED TO MOVE A RESONANT TINE.

A is the cable station, B the translating station, and C the receiving station. At the translating station there are, E the electromagnets of the relay, F the armature of the relay, T the tongue of the relay, Zn and Cu the zinc and copper poles of the relay, c a condenser, s a resistance belonging to the cable circuit through one relay winding, a and m condensers belonging to the local relay circuit, r , n and p resistances belonging to the local relay circuit, t a condenser, u a resistance in connection with the tongue, R the receiving apparatus in the leak circuit, and d the resistance in the leak circuit. It will be seen that the armature and tongue will move



ARRANGEMENT OF RELAY.

toward the Cu or Zn pole when a positive or negative current passes from A through the cable, and further that a current in the local circuit always tends to drive the tongue away from the contacts between which it is moving. The natural attraction between one or another of the pole-pieces and the relay-armature, may, when the relay is symmetrically adjusted, be easily and completely neutralized by giving p a proper size, i. e., the relay can thereby be made as sensitive as required when acted upon by any current from the cable through the other winding. By further decreasing p , the tongue begins to vibrate, and the relay is preferably used in this condition. The rate of vibrations or dots may be regulated at will by variation of condensers and resistances in the local circuit, and the working rate generally is made equal, or almost equal, to the rate of dots emitted by the transmitter at A . Sparking, due to induction from the line between B and C , is avoided by the condenser t , connected with the tongue; but this very condenser may sometimes cause sparking and considerable contact-stickings; this drawback can, however, be completely overcome by the introduction of a small resistance, u . To make good contacts, the condenser a is important; for this purpose it is also necessary that the poles of the electromagnets should be very much closer to the armature than usual; and that the resistance, p , should be introduced. The current charging condenser, a , will then immediately cause the tongue to be pressed against the contact screw with which it has just made contact, and from which it is shortly afterwards repulsed.—*Lond. Elec. Rev.*, August 22.

ANDREW CROSSE WAS AN EXTRAORDINARY DISCOVERER AND EXPERIMENTER.

WHILE PRICIPALLY KNOWN FOR HIS SPONTANEOUS GENERATION DISCOVERIES
MR. CROSSE ALSO MANAGED TO DISCOVER CERTAIN PIVOTAL FEATURES
IN MINIATURE....

WHICH HAVE TREMENDOUS IMPLICATIONS AS CONCERNS EARTH CURRENTS
AND VRIL PASSAGES.

(353) Not among the least interesting of Mr. Crosse's experiments, are those in which he has imitated in a most extraordinary manner, "constant" and "intermittent" springs with the acid of the voltaic battery. The experiments were made in the following manner:—

1°. A common garden-pot full of moistened pipe-clay was placed in a basin full of water: a platinum wire connected with the negative extremity of a sulphate of copper battery, of twelve pairs of plates, each two inches long, by one inch wide, was placed three inches deep into the middle of the clay; and a second platinum wire connected with the positive pole, was plunged into the water in the basin, to the same depth. Within a fortnight *fissures* took place in the clay in contact with the negative wire; and in six or eight weeks, these fissures filled with water, which was drawn up two inches above the level of the water in the basin. A small pool of water was formed round the negative wire, which at last overflowed and trickled constantly into the basin below. Here, then, was a *constant electrical spring*.

2°. Here the experiment was varied; but the apparatus was precisely similar. In this, both wires were plunged three inches deep into the same pot of moist pipe-clay, at the opposite sides, but about three-quarters of an inch from each side. Within a fortnight, fissures took place at the negative, but none at the positive wire. In a month or six weeks more, these fissures filled with water which overflowed, and after a day or two *ebbed*, and then again overflowed, and so on, being apparently acted on by change of weather. Mr. Crosse generally found the spring overflowing when the barometer was *very low*; and the reverse, when it was *high*. Here then was an *electrical intermittent spring*.

(354) In subsequent experiments, Mr. Crosse found it better to employ porous earthen-pots, open at the top and bottom, filled within an inch of the top with pipe-clay kneaded with water to the consistence of putty, and plunged into a basin; three platinum wires issuing from one stout wire connected with the negative extremity of the battery, being plunged three inches deep into the clay; and a group of six platinum wires issuing from one connected with the positive pole, being immersed to the same depth in the water. With this arrangement, if the battery is active, the water will rise in one night half an inch above the surface of the clay in the pot, the lip of which, together with the whole rim, to the depth of an inch, is glazed. Under the lip is placed a small shoot of sheet copper, to convey the water, as it falls drop by drop from the lip, to a graduated glass vessel. In one experiment, Mr. Crosse mixed dilute sulphuric acid with the pipe-clay, instead of distilled water.

THE INTERACTION OF WATER, SUBTERRANEAN FISSURES, VRIL AND VRIL DETRITUS IS OBVIOUS

FEW REALIZE THAT VRIL BOTH GENERATES AND SUSTAINS
ALL THE EXPERIENCED MANIFESTATIONS
FROM FOUNDATION OF ABSOLUTE SOURCE



"the No. 1 wire was opened to Painesville, 30 miles east. This did not help it in the least. I judged that our wires were crossed with those of Western Union lines, and that we were getting the full strength of their 100 cups of battery. One thing very strange was that the current pulsed, and the armature of the magnet disconnected from the battery and the wire open east vibrated like a pendulum."

From J. A. Osborne, Buffalo, New York, connected with the same line, I learn that the wires of their office were so heavily charged that he thought certainly they were crossed with the Western Union wires. The wires could not be touched. The current passed over in waves, and it was necessary to throw the instruments out of circuit in order to prevent damage to them. Fantastic streaks flashed across the wires. At one time a continuous stream of fire passed off, which lasted from four to five seconds. Had the current been more steady the wires could have been worked without the aid of the batteries. At Lockport the electricity set fire to a board to which the wires were attached. The magnets became so surcharged with electricity that when the wires were disconnected the armature remained drawn up to the coils for full three-quarters of an hour.

3. Whether some time elapsed between each discharge, as if the conductor was gradually charged? This question is answered in the above extracts from letters received by me from the different operators.

[On the night in question an aurora is noticed in the Smithsonian records at Independence, Iowa, and a heavy snow in Michigan. A wave of low temperature was passing from the west to the east from the 7th to the 10th of January, reaching its minimum in the State of New York on the night of the 9th and morning of the 10th. The phenomenon may perhaps have been due to the falling of the snow on a western portion of the line. The ascending vapor from which this snow was produced would become negatively electrified by induction from the plus electricity of the space above. In the subsequent freezing of this vapor into snow, it would retain its electrical condition, and falling on the wire would give the latter a charge of negative electricity which would be propagated by conduction both east and west.—J. H.]

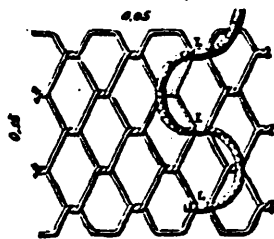
REPORTS SUCH AS THIS WERE BY NO MEANS ISOLATED.

THESE GAVE AMPLE EVIDENCE THAT A MYSTERIOUS ENERGY WAS THRILLING THROUGH THE GROUND.

VRIL ENERGY WAS NOT ONLY SELF-GENERATING BUT CONSCIOUS...CONSCIOUSNESS.

ON THE ARRANGEMENT OF GROUND CONDUCTORS.

In telegraphy, as well as in the question of lightning rods, attention has been but incidentally paid to the improvement of ground conductors, and this point has not been the object of that careful study that has been bestowed upon the establishment of aerial lines. It is only recently that the interest created by lightning rods has given rise to new forms of conductors differing from those formerly used. The publications of the Prussian Academy of Sciences of from 1876 to 1880 contain some information of special importance in regard to this. It is stated therein that the effect of ground conductors may be notably increased by the division of the earth plates and the use of metallic rungs, without necessitating a greater output of material. These facts, however, have not as yet been put to profit in practice for the reason, perhaps, that the considerations, which have remained general, have not at once permitted of obtaining forms that could be employed with perfect knowledge of the results. This is what led Mr. Ulbricht, of Dresden, to make calculations for a few forms of conductors, and to test their approximate values. The results of these researches are oriented in the *Elektrotechnischen Zeitschrift* for 1883 (p. 18).



The equations found show, in the first place, that there exist three means of obtaining a considerable effect, as regards the ground conductor, with a slight expenditure of material: The cylindrical electrode may be drawn out into the form of a bar or wire; the plate may be rendered narrow, and elongated in the form of a ribbon; and, besides, the annular plate may be enlarged in lowering the metallic surface.

Finally, a short, open cylinder with a vertical axis may be formed by curving a narrow plate or ribbon. It is not necessary to see the formula to recognize the fact that this cylinder must behave like a ribbon and a flat ring. The radius increasing, and the surface remaining constant, the resistance of the earth here likewise approaches zero.

As the resistance of the earth is inversely proportional to the diameter of the plates, the zero resistance can also be reached by dividing a plate *ad infinitum*. As the parts of the plate may be brought quite close to each other without perceptibly interfering with the action, a network has finally been reached by a division carried very far, yet limited, and by connecting the parts with one another by conducting cylinders.

If we seek to determine what forms of ground conductors are efficient and economical under given conditions, we shall have to begin by informing ourselves as to the choice of material to be used for the electrode, and shall then have to ascertain whether putting it in the ground will or will not necessitate much outlay. The most suitable material is copper, which may be used with advantage, in that it lies pretty well under ground, and that the facility which it may be worked permits of easily giving it more appropriate forms than those that can be obtained with cast iron, which is of itself less costly.

If the burying in the ground requires little or no labor, as when there exist ponds, rivers, and wells, or subterranean strata of water near the surface of the earth, elongated forms of conductors will be employed, such as the solid or hollow cylinder, the wire, the ribbon, the narrow ring, and the network. Plates approaching a square or circular shape are not advantageous. But if the ground has to be dug deeply in order to sink the conductor, the form of the electrode must be more condensed, and selected in such a way that the necessary action may be obtained with a minimum output of copper and labor. For great depths, and when the ground will permit of boring, an elongated and narrow cylinder will be used. Such a system, however, can only be employed when the cylinder is surrounded by spring water, since, without that, an intimate contact with earth that is only moist, cannot be obtained with certainty. In earth that is only moist and for moderate depths, preference may be given to an electrode laid down flat. The digging necessary in this case is onerous, it is true, but it permits of very accurately determining the state of the earth beneath and of obtaining a very perfect adherence of the electrode therewith. Two forms, the annular ribbon or the flat ring and the network, present themselves, according to calculations, as a substitute for copper plates, which are so expensive; and these forms are satisfactory on condition that the labor of digging be not notably increased. These forms should always have a diameter a little greater than that of the plate.

EARTH BATTERIES OCCUPIED THE MINDS
OF MANY DESIGNERS.

HAUNTED BY VRIL...THESE PERSONS
ATTEMPTED INTIMATE CONTACTS

WITH THE EARTH

THROUGH MATERIAL STRUCTURES

WHICH RESEMBLED DENDRITIC FORM...

ROOTS AND SUBTERRANEAN TUBULES

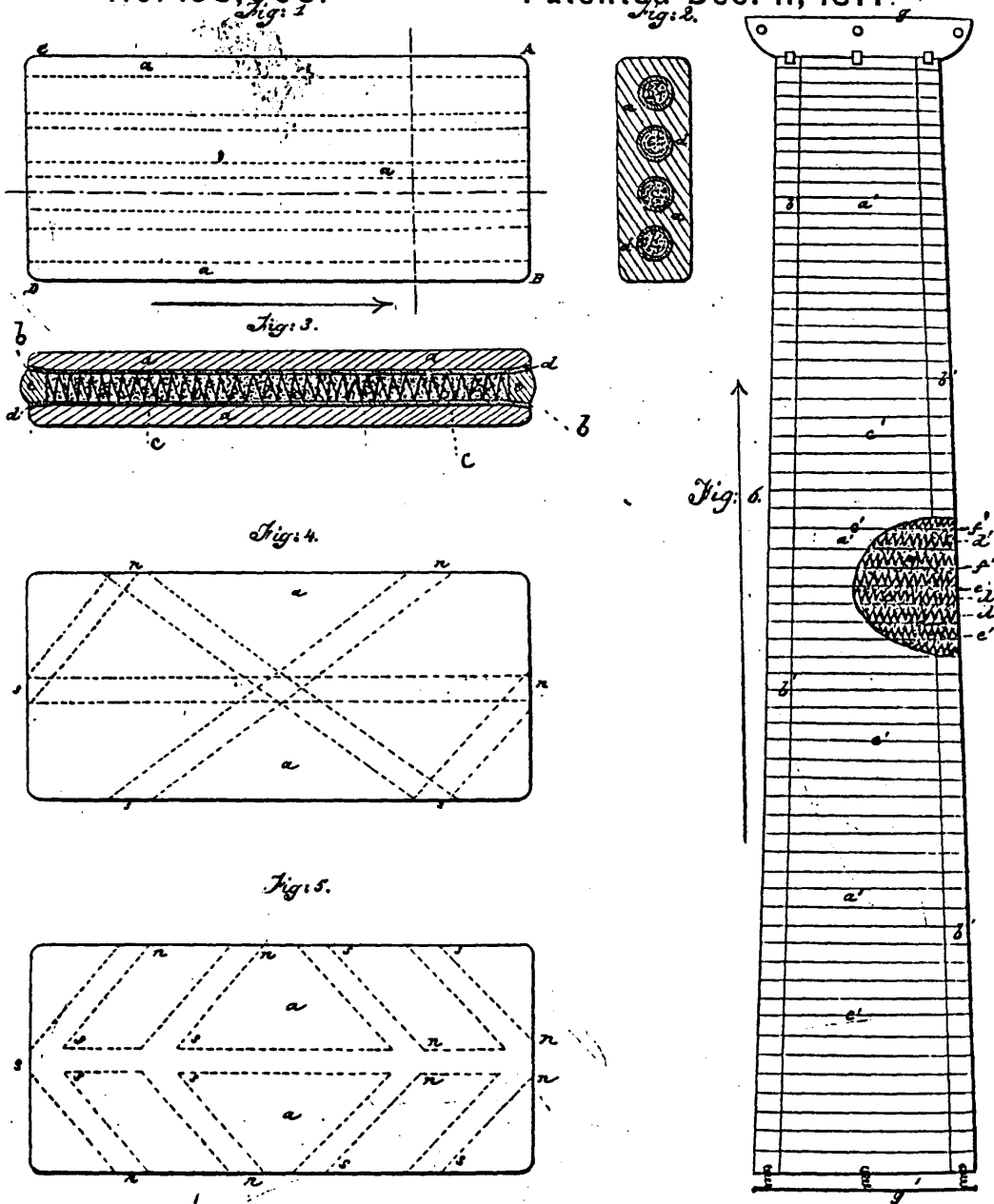
WERE BRIEFLY INVESTIGATED.

G. EDARD.

Magnetic Battery for Curative Purposes.

No. 198,008.

Patented Dec. 11, 1877.



Witnesses:

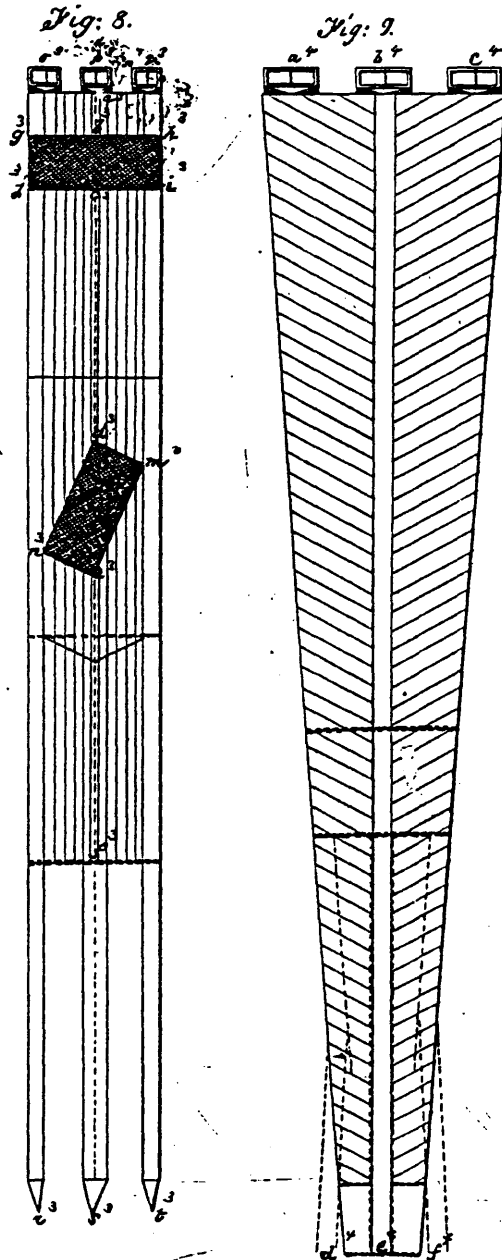
John C. Tunbridge
D. V. Briesen

Inventor:

Guillaume Edard
by his attorney
D. V. Briesen

G. EDARD.

Magnetic Battery for Curative Purposes.
No. 198,008. Patented Dec. 11, 1877.



Witnesses:
John C. Tunbridge
D. Briesen

Inventor:
Guillaume Edard
by his attorney
D. Briesen

G. EDARD.

Magnetic Battery for Curative Purposes.
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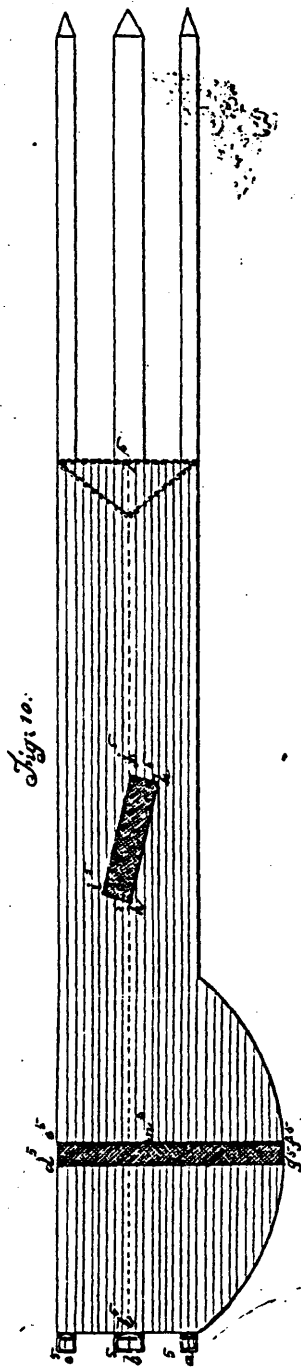


Fig. 10.

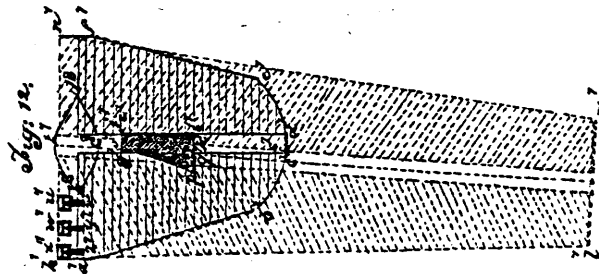


Fig. 12.

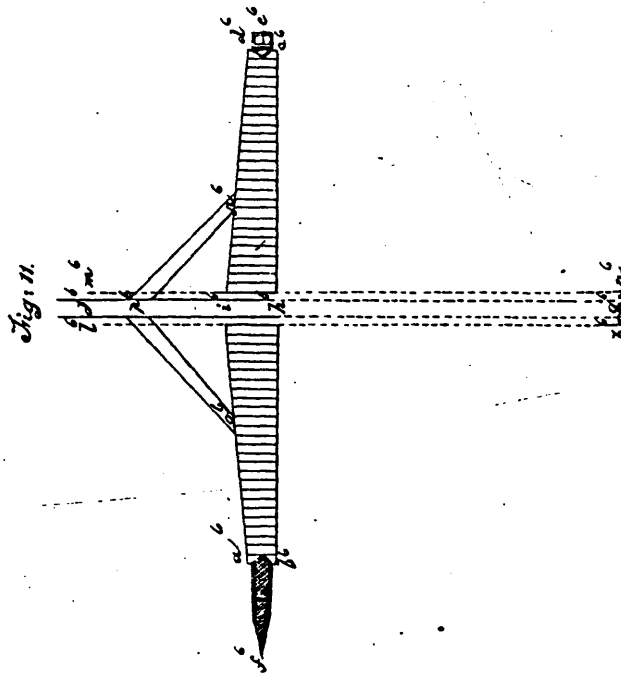


Fig. 11.

Witnesses:
John C. Tunbridge
A. Priesen

Inventor:
Guillaume Edard
by his attorney
A. Priesen

UNITED STATES PATENT OFFICE.

GUILLAUME EDARD, OF PARIS, FRANCE.

IMPROVEMENT IN MAGNETIC BATTERIES FOR CURATIVE PURPOSES.

Specification forming part of Letters Patent No. 198,008, dated December 11, 1877; application filed June 29, 1877.

To all whom it may concern:

Be it known that I, GUILLAUME EDARD, of Paris, France, have invented Improvements in Magnetic Apparatus for Medical Purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed sheets of drawings, making a part of the same.

This invention relates to improvements in magnetic apparatus, and in the employment of the same for producing and applying magnetism as a substitute for Pulvernacher's chain-bands, Brandus brushes, and other analogous appliances.

The invention consists in providing an apparatus with a dry pile, which consists of a magnet or magnetized wire of suitable form and dimensions, embedded in powdered magnetic iron ore in the form of dust or sand, all as hereinafter more fully described.

The invention is applicable to magnetic friction-brushes, belts, corsets, abdominal supports, garters, hose, bonnets, and other bodily appliances.

I will describe first a brush or rubber having the dry pile above mentioned, and which is represented in Figures 1, 2, and 3 of the accompanying drawings in plan and transverse and longitudinal section, it being understood that the form of the brush may be varied.

a are one or more thicknesses of cork inclosing the elements of the dry pile, viz., the magnetized steel spirals or magnets b , and the magnetic-iron-ore dust c . The magnets b and ore c are inclosed in metal tubes d of copper, or equivalent material. e are stoppers or plugs closing the ends of tubes d , to prevent the escape of the magnetic sand. A B, north pole; C D, south pole.

The brush is pierced with a number of longitudinal channels, in which are lodged the copper tubes d , as shown in Fig. 2. Each of the channels contains five, more or less, spirals of magnetized steel, which form, by their union, a single magnet, polarized in such manner that the friction-brush has four magnets, forming eight poles, four positive and four negative. The magnetic-iron-ore dust, with which the tubes containing the magnets are filled, excites the latter by its magnetic attraction and by reason of the special magnetic preparation to

which the whole is subjected. The magnetic-ore dust is a constant reservoir of magnetic fluid, whose action is continually renewed and distributed with undiminished strength.

By holding the apparatus at its opposite poles by the hands, or holding it at one pole, and rubbing the body with the other, the muscles will be magnetized with sufficient strength to produce a continual attraction and repulsion of the fluid-currents.

Figs. 4 and 5 show different arrangements of the magnetic elements inclosed in the thickness or thicknesses of cork or hard india-rubber. The different poles are indicated in these figures.

Fig. 6 shows a magnetic belt to be used for the prevention of sea-sickness. In this figure, a' is a silk or linen fabric of two or three thicknesses, with or without a lining.

The belt, as shown, is made in the form of a trapezium. b' are longitudinal tubes formed in the belt, which are filled with magnetic-ore dust, serving to unite all the poles of similar name into one at each end of the belt, the one north and the other south.

The spaces in the tubes b' are filled with magnetic-ore dust, thus forming conductors of the permanent current developed by the following elements: c' are transverse cells or tubular spaces, which may, if desired, be rendered impervious, to prevent the escape of the ore-dust. d' are magnetized and polarized steel spirals, embedded in the magnetic ore-dust e' , with which the cells c' are filled. f' are two strips of iron-wire gauze applied on the ends of each spiral, d' , and embedded in the ore contained in tubes b' ; g' , steel buckles without tongues, attached to the north and south poles, respectively. When the belt is used, the buckles are connected so as not to interrupt the current. Any other suitable attachment may, however, be employed.

Fig. 7 shows, in transverse section, a magnetic boot-sole, in which a'' is the sole of cork; b'' , ore-dust or sand; c'' , fabric forming a covering for same; d'' , outsole of cork; e'' , fabric which is shown as enveloping the greater part of the sole; but it may be applied around the edges only. f'' is the magnetic wire placed in the ore-dust b'' .

Fig. 8 shows a magnetic belt for preventing

sea-sickness, formed of a number of separate tubes, filled with magnetic-ore sand.

$a^3 b^3 c^3 d^3 e^3 f^3$ are lengths of chain to unite the two metal busks $g^3 h^3 i^3 j^3$ and $d^3 m^3 e^3 n^3$. The first is applied horizontally upon the epigastrium or pit of the stomach, while the other is applied to the vertebral column immediately opposite the first mentioned. The busks are inserted in the thickness of the belt in the positions shown. $o^3 p^3 q^3$ are buckles; $r^3 s^3 t^3$, straps. The whole of the belt is covered on the one side with an insulating material, such as silk or linen, while the inside surface of the tubes and busks are applied next the skin. This kind of belt may also be used without the busks. The belt is provided with the hollow tubes, filled with ore-dust and containing the wire, as heretofore described.

Fig. 9 shows another form of magnetic belt for the prevention of sea-sickness.

$a^4 b^4 c^4$ are buckles, or a single one only may be substituted, of the same breadth as the belt. The belt is divided centrally throughout its length by a tube filled with magnetic-ore sand, on either side of which extends a series of diagonal tubes, also filled with the sand, and uniting with the central tube, which receives and collects the several currents. $d^4 e^4 f^4$ are tabs, or one single tab only may be used. The belt is lined the same as the foregoing, and both are made wider at one end than at the other, in order to indicate in a simple manner the location of the north and south pole.

Fig. 10 shows an umbilical belt; $a^5 b^5 c^5$, buckles; $d^5 e^5 f^5 g^5$, metal busk placed perpendicular to the length of the belt; $h^5 i^5 j^5 k^5$, diagonal dorsal busk. The form and arrangement of the busks may be varied. $l^5 m^5 n^5 h^5 j^5 p^5$ are conducting-chains, connecting the busks with the end of the belt.

The tubes containing the ore-dust and wire all run in the same direction. The belt is lined, and may be used without the busks and chains,

in which case it would be formed of a series of parallel tubes containing the magnetic elements.

Fig. 11 shows a magnetic head-band. $a^6 b^6 c^6 d^6$ are vertical tubes filled with magnetic-ore sand, and made longer at one end than at the other, so as to indicate, by a simple means, the location of the poles; $e^6 f^6$, buckle and tab; $g^6 h^6 i^6 j^6 k^6 l^6 m^6 n^6$, silk straps for holding the band in place; $o^6 p^6 r^6$, temple-straps. The tubes containing the ore-dust and wire are arranged, as heretofore described.

Fig. 12 shows an appliance for the chest and back, made in two parts. The part $a^7 b^7 c^7 d^7 e^7 f^7$, which is to be applied on the chest, is formed of two series of horizontal tubes, filled with ore-sand, with a vertical busk, $g^7 h^7 i^7 j^7$. The horizontal tubes unite in a central vertical tube, $d^7 j^7$. The part $k^7 l^7 m^7 n^7$ forms the back piece, and is composed of two series of diagonal tubes, united in a single vertical tube, $s^7 t^7$. Upon the back piece is applied the busk $o^7 p^7 q^7 r^7$ in a diagonal position. Chains contained in the vertical tubes $s^7 t^7 d^7 j^7$ serve to connect the busks. The back and front pieces are connected by buckling at the shoulders $u^7 v^7 w^7 y^7 x^7 z^7$. $t^7 b^7 c^7 d^7$ represent the opening for the neck. The front and back may also be made in one piece, by providing an opening large enough for the head to pass through.

I claim as my invention—

A magnetic apparatus for medical purposes, consisting of a perforated or hollow body, containing one or more tubes filled with magnetic-iron-ore dust, in which is embedded a magnet, whose opposite poles terminate at the ends of the tube or tubes, all arranged substantially as specified.

GUILLAUME EDARD.

Witnesses:

ROBT. M. HOOPER,

JEAN BAPTISTE ROLLAND.

A. C. GARRATT.
Medical Battery.

No. 85,300.

Patented Dec 29, 1868.

Fig. 1.

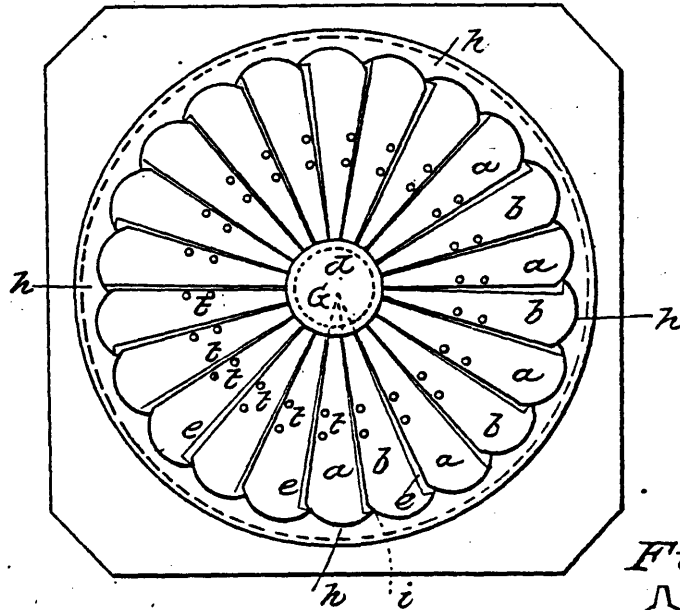


Fig. 2.

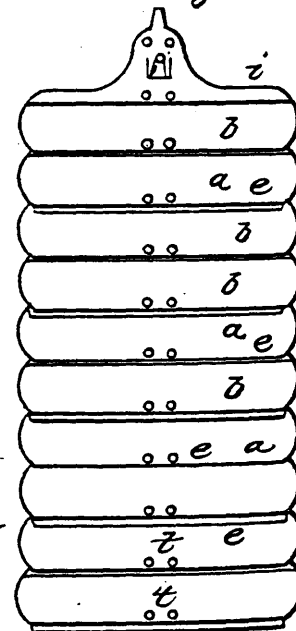
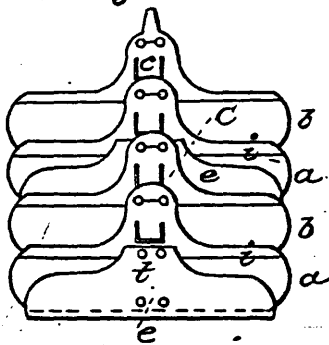


Fig. 3.



Witnesses.
A. J. Butterworth
R. W. Carpenter

Inventor.
Alfred C. Garrett.
Carroll D. Wright.
his attorney.

United States Patent Office.

ALFRED C. GARRATT, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 85,300, dated December 29, 1868.

IMPROVEMENT IN VOLTAIC PILE FOR MEDICAL PURPOSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ALFRED C. GARRATT, of Boston, county of Suffolk, and State of Massachusetts, have invented certain Improvements in Voltaic Batteries, to be used upon the body in the treatment of disease, which I call "An Improved Humboldt Medical Battery;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 represents a complete battery, of circular form.

Figure 2 represents a section of a straight battery.

Figure 3 represents the back of the straight plates, and manner of connecting them.

It has long been a question among electricians as to a convenient method of applying electricity locally, as cases frequently occur in medical practice when it would be of great benefit if a constant primary current of electricity could be applied to the part of the body diseased, and members of the medical profession have been at a loss to secure the proper means of locally applying this primary current for continuous gentle action, so much desired.

There have been various attempts to so construct a battery for local application, as to secure the proper electrical current, but so far the attempts have been without satisfactory results.

The object of my invention is to produce an electro-physiological battery, which can be applied to any part of the human body, which battery, by the action of the natural perspiration from the skin upon the dissimilar metals comprising my battery, as an exciting-fluid, shall generate a constant and efficient primary current of electricity.

I accomplish my purpose by arranging pairs of plates of dissimilar metals, after the principles incorporated in Letters Patent granted me by the United States, December 31, 1867, and July 7, 1868, upon any durable and flexible non-conducting base, and insulating the plates from this base, and insulating the pairs of plates from the next pair, by any good insulator, like rubber cloth. These plates may be of any convenient shape, but the shapes given in the drawings are well adapted for the purposes to which I put my apparatus.

In the drawings, *a* represents zinc plates, and *b* copper plates, or copper rolled with silver, or any suitable metal dissimilar to zinc. The plates are made of rolled metal, and of a proper thickness, say one-fortieth of an inch. The zinc plate and the copper plate are soldered together at *c*, thus making a pair of plates of dissimilar metals. These pairs are then attached by thread *t* to a durable and flexible non-conducting base, in such a manner that the different metals shall be alternate. Each pair is insulated from the next pair by inserting a strip of rubber cloth, *e*, or any good insulating-material, between each pair and the next.

I arrange these pairs in a circle, as shown in fig. 1, or I may arrange them so as to make a straight battery, as shown in fig. 2, or I may arrange them in any suitable shape, as may be required for any particular local application.

These pairs are insulated from the base *h*, by soft rubber or other insulator, and they are connected in such a manner as not to fluctuate the electric current, and at the same time the connection is completely insulated, so as to be neat and flexible.

In the circular battery I place, over the centre, a piece of rubber cloth, *d*, or its equivalent, the use of which is to insulate the ends of the plates from the body, and give free action to the electrical current.

My improved Humboldt medical battery is to be applied directly to the skin, and thus worn, so that the living limb or body of the patient acts as the vehicle for supplying the spaces between the pairs over the insulator *e* and the metals, with an exciting-fluid, which is the natural perspiration from the body. The spaces between the different plates and pairs are preserved by the peculiar flange on the plates themselves, shown at *i*, and by the insulations.

The first Humboldt battery, known as such to science, and described in my work on medical electricity, edition of Ticknor & Fields, 1860, page 113, of which I was the originator, and which I gave to the world, is not so complete as I could wish, and I have therefore interested myself, by great pains and expense, to produce my improved Humboldt medical battery, which is an electro-physiological battery; and the convenience and usefulness of this cheap, durable, and least troublesome of all galvanic arrangements, and its peculiar adaptation, under frequently-occurring circumstances, for the treatment of different cases, must give it a more prominent place, among practical and reliable electro-therapeutics, than that gained by my original invention, for the present improved arrangement and structure secures far greater and more uniform efficiency. If the friction of the body upon the surface of the plates does not keep them sufficiently bright, they can easily be rubbed with a piece of wash-leather or any suitable material.

I am well aware of the nature of "Pulvermacher's chain," a German invention, and I do not claim any arrangement analogous to it. I am also aware of the nature and claim of Thomas Hall's patent, of February 7, 1865, for "voltaic soles," and I disclaim his arrangement of lapping plates of dissimilar metals, as there is no current in an apparatus constructed after his alleged invention, as no compound primary current can be produced without a series of complete elements; in fact, scientific demonstration with the galvanometer proves Hall's "voltaic sole" to have no electrical current as a whole, while a battery constructed according to my invention can easily be proved to possess all the qualities I claim for it.

Having thus fully described my improvement,
What I claim as my invention, and desire to secure
by Letters Patent, is—

An electro-physiological battery, constructed by ar-
ranging a series of pairs of dissimilar metal plates, as
elements completely insulated from each other, and
from the base, as described, and the plates of each pair
firmly connected, as shown, all arranged upon a flexible

non-conducting base, as and for the purposes described
in this specification.

In testimony whereof, I have signed my name to this
specification, in the presence of two subscribing wit-
nesses.

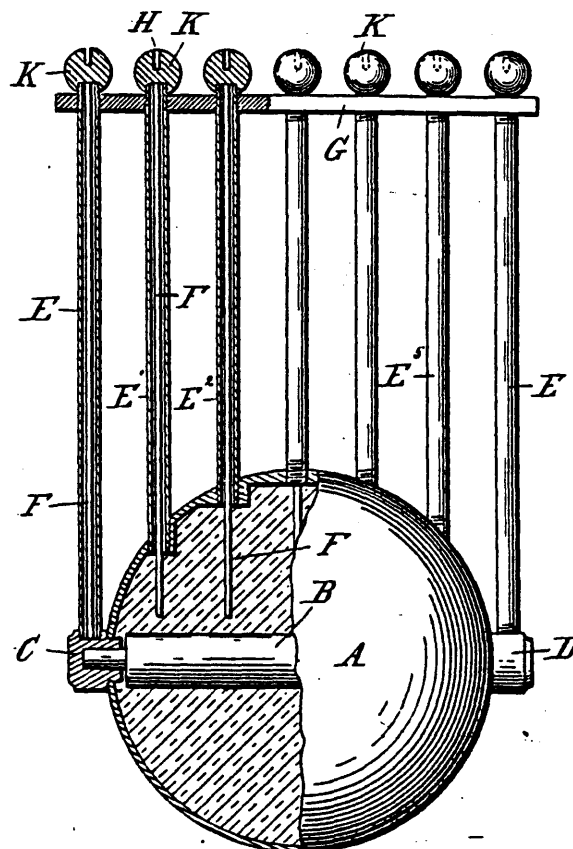
Witnesses: ALFRED C. GARRATT.
CARROLL D. WRIGHT,
A. F. BUTTERWORTH.

(No Model.)

T. H. HICKS.
THERAPEUTIC MAGNET.

No. 420,300.

Patented Jan. 28, 1890.



Witnesses:
P. M. Hulbert
Geo. A. Gregg

Inventor:
Thomas H. Hicks
By James Whittemore
Atty.

UNITED STATES PATENT OFFICE.

THOMAS H. HICKS, OF DETROIT, MICHIGAN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE THERAPEUTIC TERRESTRIAL EQUI-POISE COMPANY, OF MICHIGAN.

THERAPEUTIC MAGNET.

SPECIFICATION forming part of Letters Patent No. 420,300, dated January 28, 1890.

Application filed October 12, 1889. Serial No. 326,874. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. HICKS, a subject of the Queen of Great Britain, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Therapeutic Magnets, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to new and useful improvements in therapeutic magnets; and the invention consists in the peculiar construction and arrangement of a magnetic field, all as more fully hereinafter described, and shown in the accompanying drawing, in which my device is shown half in elevation and the other half in central section.

A is a hollow metallic body, preferably of globular form. B is a magnet secured in the center or axis of the body and having its ends preferably projecting to the outside, said magnet being either a permanent or an electro-magnet.

C and D are screw-plugs secured in screw-threaded apertures formed in opposite sides of the body A, the apertures being large enough, if desired, to fill the space therein with any neutral or insulating body, such as sulphur, resin, &c. The plugs are preferably interiorly recessed to receive the ends of the magnet to hold it securely in prescribed position.

E E are two metallic rods secured at right angles to the magnet in the screw-plugs C and D, respectively, and E' E'', &c., are intermediate metallic rods secured at intervals between the outer rods E E in the shell of the body and extending parallel to each other and to the outer rods to an equal distance from the axis of the magnet. These rods are preferably made of tubing, of any metal except iron, with an iron core F inclosed in each tube and extending into proximity to the magnet.

Near their outer ends the metallic rods are connected by a cross-bar G, of insulating material, and to each of the free ends of the rods is secured an enlarged metallic contact or pole piece K of lead, preferably of globular form and provided with a socket H, or other

convenient means, for detachably securing 50 thereto pole-extensions of various forms. Thus it will be readily seen that in this respect all the metallic contacts or poles K being in different relation to the magnet or its field have different magnetic values or properties, and thereby the physician is enabled 55 to intelligently select the one for application which in his experience suits the case, the patient being brought either in direct contact with this pole, or, if this is not practicable, indirectly through an extension secured thereto. 60

A further object of my invention is to so construct the device that the physiological effects of heat or cold may be combined with the magnetic effects, as both these effects combined are much more efficacious than either alone; and to this end I have constructed the device so that it may be readily placed into a cooling or into a heated medium contained in a suitable vessel. 65

The extensive metallic surface and body given to the device will form in such use a good conductor. 70

As the device is presented in the drawing, the iron cores in the tubes E E', &c., are inductively acted upon by the magnet B, and on account of the different relations to said magnet it may be said that the contacts K represent a magnetic scale. A similar result, however, may be obtained by omitting the 80 iron cores altogether and arranging the contacts K merely in different parts of the field of force of the magnet B.

The globular form of the metallic body A forms a visual index of the intensity of the 85 magnetic contacts K by the analogy with the globular form of the earth and its magnetic properties at various distances from the poles. By filling the interior spaces in the globe with a suitable material water or other liquid is excluded therefrom when the device is immersed. 90

What I claim as my invention is—

1. In a therapeutical magnet, the combination, with a magnet, of a series of metallic 95 contacts or poles in the magnetic field thereof and in graduated proximity to the poles of said magnet, and a metallic frame support-

ing said magnet and series of poles in fixed relation to each other, substantially as described.

2. In a therapeutical magnet, the combination, with a magnet, of a series of metallic contacts or poles located in different parts of the magnetic field thereof, a hollow metallic casing inclosing and supporting the magnet, and a series of metallic rods secured thereto at right angles to the axis of the magnet and carrying the series of metallic rods secured thereto at right angles to the axis of the magnet and carrying the series of metallic contacts or poles, substantially as described.

3. In a therapeutical magnet, the combination of the magnet, the inclosing metallic

globe A, the screw-plugs C and D, supporting the magnet, the tubular rods E E, secured to the screw-plugs at right angles to the magnet, the intermediate tubular rods E' E'', &c., secured to the globe A, the cross-bar G, the metallic contacts of poles K, secured to the free ends of the tubular rods, and the iron cores secured in the tubular rods, all arranged substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 8th day of October, 1889.

THOMAS H. HICKS.

Witnesses:

M. B. O'DOHERTY,
ED. MCBREARTY.

United States Patent Office.

MARTIN ZIEGLER, OF MULHOUSE, FRANCE.

Letters Patent No. 60,986, dated January 1, 1867.

IMPROVED IMPONDERABLE FLUID, AND MODE OF GENERATING THE SAME.

The Schedule referred to in these Letters Patent and making part of the same.

TO WHOM IT MAY CONCERN:

Be it known that I, MARTIN ZIEGLER, of Mulhouse, in the empire of France, have invented or discovered a new and imponderable Fluid, and Method of Generating the Same, of which I hereby declare the following to be a full, clear, and exact description.

I have observed that whenever azote and carbon, or an azotic body and a carbonized body, or a body strongly azotic and another but slightly so, are brought in contact, an imponderable fluid is disengaged, the presence of which is manifested by certain peculiar effects upon animal or vegetable organisms. This fluid, which I call "vital fluid," is a new physical agent, generated, like heat, light, and electricity, in the midst of chemical circumstances. It may be collected and transmitted in currents, like the electric fluid, as will presently be shown; but whilst the phenomena by which its presence is manifested bear a certain analogy to electric phenomena, this fluid is nevertheless autonomic, and has a separate and independent existence; and the best and most convincing proof of this is that currents of the fluid may be conducted through non-electric substances.

Having described the nature of the fluid, I will now proceed to describe the manner in which it may be generated and brought to a condition in which it can be practically used. At the same time it will be understood that although I refer to and describe but one or two apparatus fitted for my purpose, I do not limit myself to such apparatus, but hold myself at liberty to use all processes which operate on the same principle to induce like results.

Azotic bodies are the best conductors of the vital fluid, and among them I prefer silk, which has the advantage of intercepting or insulating electric currents, the intervention of which would be detrimental to the fluid. As insulators for the fluid, glass, enamel, and minerals in general may be used.

The apparatus for generating the fluid all resemble the voltaic pile to a certain degree. Thus, in each is found a generator of the fluid with two heterogeneous chemical substances—the one with a carbon base, and the other with an azotic base—and two conducting threads (kinds of reaphores) for conducting the current and completing its circuit.

The following is a good arrangement to adopt: A bladder or like porous receptacle is filled with caustic ammonia, and is immersed to the neck in molasses contained in an ordinary jar or suitable vessel. A thread of silk is attached to the neck of the bladder or porous diaphragm, and the end of a second silk thread is placed in the molasses. The two pieces of silk are then united, and the circuit is thus completed and closed, through which the current of the vital fluid passes. The effect of the fluid will be manifested on an organized being who is in the course of the current. If a certain number of these elements are brought together in pairs, a dozen, for instance, a current of great power may be obtained which will produce on an animate being much more noticeable effects. The elements in this case are connected by plunging the thread of the ammonia of the first element into the molasses of the following element, and so on; or better, by uniting on one side all the ammonia threads, and on the other all those of the molasses.

A still better arrangement may be effected by means of glass tubes. For this purpose a glass tube is taken whose length is from ten to fifteen times its diameter. It should be slightly spread at its ends, and two cork stoppers are prepared entirely enveloped in a gold-beater's skin, (baudruche,) which is wrapped three or four times around each cork, and bound near the upper end of each with a silk cord which forms one of the conductors. The silk cord can also be made to pass through the tube, and this is even preferable. The tube being corked at one of its ends, a charcoal disk of no great thickness is placed in it.—On this disk are spread a few grains of silicious sand to prevent its contact with a second disk of charcoal, and care should be taken each time the sand is introduced to cover it with ammonia, in such manner that the whole will be finally immersed in the liquid. The tube being thus filled is closed by the second cork, and the vital fluid is then produced, and forms two currents which flow through the conducting threads. By uniting several of these elements, either placed end to end or brought together in a bundle, very powerful currents may be obtained.

The above-described apparatus produce good results, but in my experiments I have employed in preference the following: it is composed of tubes, corked at both ends as just explained, but instead of carbon and silicious sand with ammonia, the tubes are filled with alternate layers of powdered sugar of lead and cyanide of potassium, not too dry.

It is not necessary that I should further explain the construction or arrangement of these apparatus, which may be subjected to infinite modification according to the nature of their application and use to and in physiology, agriculture, and the industrial arts. By azotic bodies, in the above specification, I mean all bodies composed or consisting of azote.

Having described my invention, what I claim, and desire to secure by Letters Patent, is as follows:

1. Producing a new imponderable fluid in the manner and by the means herein set forth and described.
2. The combination of two substances, the one containing azote and the other containing carbon, in the manner substantially as herein described, so as to generate an imponderable fluid, and to excite or produce a current of the same, as and for the purposes set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

M. ZIEGLER.

Witnesses:

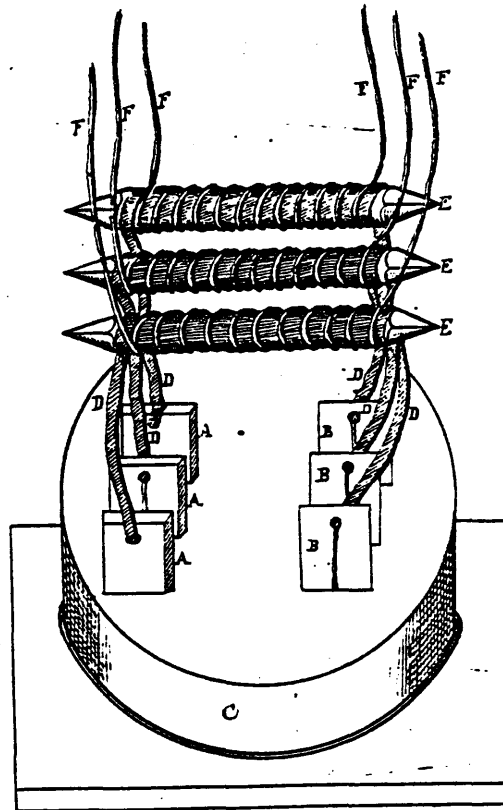
EL. FRANK,

F. F. RANDOLPH.

J. C. BRYAN.
Earth-Battery.

No. 160,152.

Patented Feb. 23, 1875.



WITNESSES

Jos. T. R. Plaut
Theophilus S. Kinnell

Jas. C. Bryan

INVENTOR

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

ETHERFORCE

UNITED STATES PATENT OFFICE.

JAMES C. BRYAN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN EARTH-BATTERIES.

Specification forming part of Letters Patent No. 160,152, dated February 23, 1875; application filed January 27, 1875.

To all whom it may concern:

Be it known that I, JAMES CHAPMAN BRYAN, of the city of Philadelphia, State of Pennsylvania, have invented new and useful Improvements in Earth-Batteries for electro-magnetic purposes; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The object of my invention is to produce a current of electricity from an earth battery or batteries capable of generating a constant current of considerable intensity, to be used for lightning-rods and other purposes where voltaic batteries using solutions are now applied.

It is known that if different elements—for instance, sheets of zinc and copper—be buried or placed in the earth a current of electricity is generated; but I have discovered that if such elements be partly embedded in sulphur, so that the dampness of the earth may act in conjunction with the sulphur on the metals, a more intense current will be created. I utilize this in the following way: This current is collected by insulated wires coiled around nickel-plated steel magnets, which are planted north and south in the earth, to receive the magnetic current of the earth; a secondary coil or coils of insulated wire surrounds the coil or coils around the magnets, and receives, by induction, electricity from both the voltaic and magneto-electric batteries.

In the drawing, the voltaic battery is composed of several pieces or plates of chemically pure zinc, A, and the same number of copper, B. They are embedded in a cake of sulphur, C, and are connected by a large insulated wire, D, which, being the primary coil between dissimilar elements, is extended, without insulation, to the base of the sulphur cake C, and also in a spiral coil or coils around steel magnets E, which are pointed, magnetized, and nickel-plated.

These batteries are planted in the earth north and south, to receive the earth's current of electricity according to the magnetic poles. The primary coil or coils D are surrounded by a secondary insulated wire, F, in a spiral coil or coils, to receive, by induction, electricity from the batteries' current through D.

What I claim as my invention is—

1. The improved voltaic earth-battery, consisting of the metals A B, partially embedded in the sulphur C, as herein set forth.
2. The combination, with the voltaic earth-battery and primary coil, of the series of magnets forming the magneto-electric battery, substantially as herein described.
3. The combination, with the voltaic earth-battery, magneto-electric battery and primary coil, and the secondary coil F, substantially as herein set forth.

JAMES CHAPMAN BRYAN.

Witnesses:

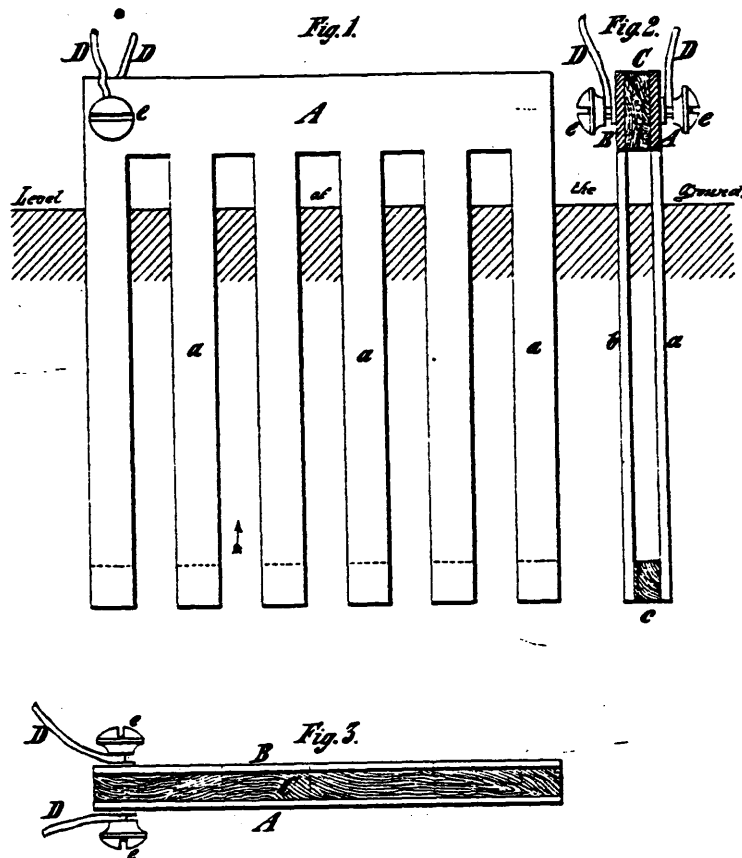
JOS. T. K. PLANT,
THEOPHILUS S. KIMMELL.

3 Sheets—Sheet 1.

J. CERPAUX.
ELECTRIC-PILES.

No. 182,802.

Patented Oct. 3, 1876.



Witnesses.
Thomas E. Birch
Henry A. Chapin

Jules Cerpaux
by his Attorneys,
Vander Veer & Brown
N.Y.

H. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

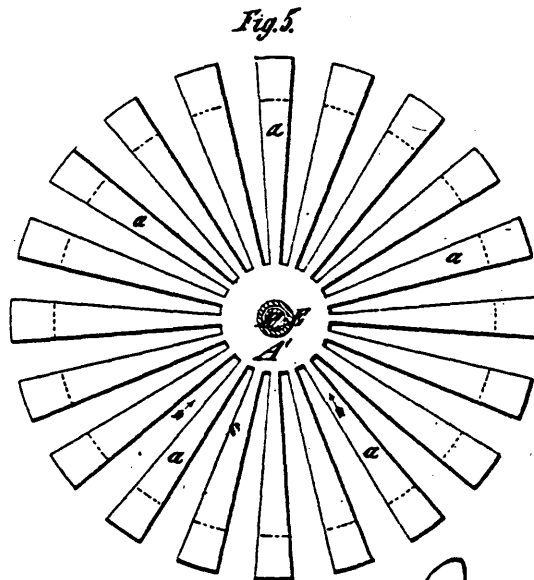
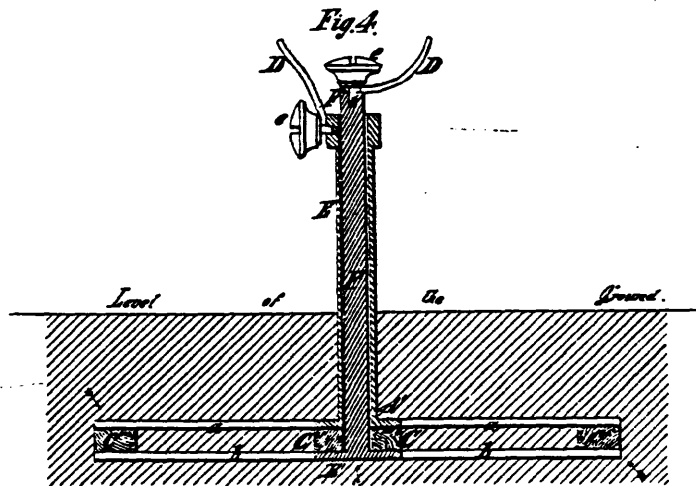
ETHERFORCE

3 Sheets—Sheet 2.

J. CERPAUX.
ELECTRIC-PILES.

No. 182,802.

Patented Oct. 3, 1876.



Witnesses.
Henry M. Chapin
Thomas E. Birch

Jules Cerpoux,
by his Attorneys,
Van der Veer & Brown,
N.Y.

3 Sheets—Sheet 3.

J. CERPAUX.
ELECTRIC-PILES.

No. 182,802.

Patented Oct. 3, 1876.

Fig. 6.

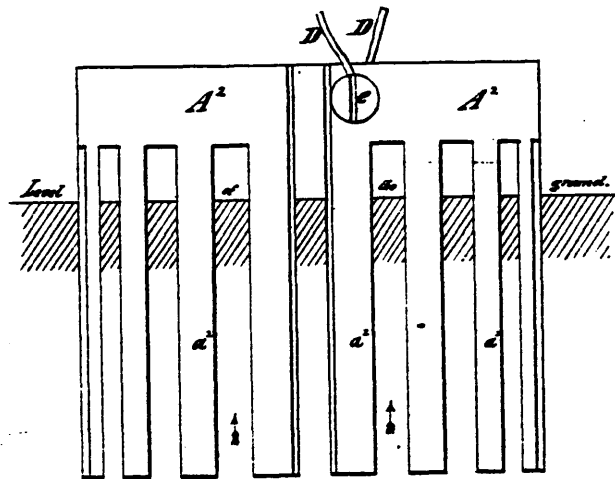
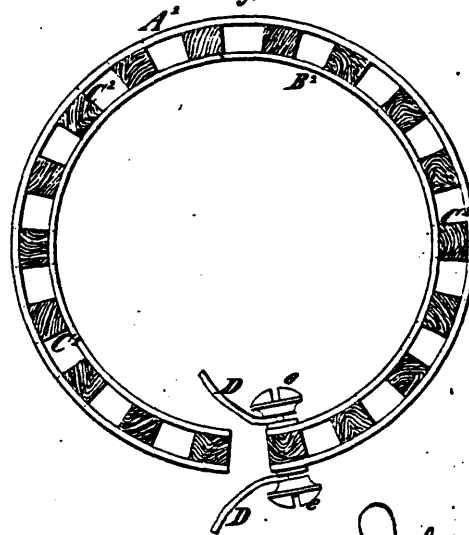


Fig. 1.



Witnesses:

Henry A. Chapin
Thomas E. Birch.

Jules Cerpauy,
by his Attorneys
Vander Verr & Brown
N.Y.

H. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

ETHERFORCE

UNITED STATES PATENT OFFICE.

JULES CERPAUX, OF SAINT JOSSETEN NOODE, BELGIUM.

IMPROVEMENT IN ELECTRIC PILES.

Specification forming part of Letters Patent No. 182,802, dated October 3, 1876; application filed March 8, 1876.

To all whom it may concern:

Be it known that I, JULES CERPAUX, of the city of Saint Josseten Noode, in the Kingdom of Belgium, have invented a new and Improved Electric Pile, of which the following is a description:

My invention consists in the combination of plates of zinc and copper, or other metals having analogous qualities, and provided with a series of teeth or blades, said plates and their blades being separated by slats and blocks of wood, or other suitable insulating material, whereby I produce a very superior electric pile, which, when inserted in moist earth or sand, as hereinafter described, generates an electric current at but slight cost.

In the accompanying drawings, Figure 1 represents an electric pile, made according to my invention, and of flat form. Fig. 2 represents a transverse vertical section thereof. Fig. 3 is a top view of the same. Fig. 4 represents another form, in vertical section, of a circular plate with radial blades. Fig. 5 is a sectional plan thereof. Fig. 6 represents a side view of another style of electric pile of annular form; and Fig. 7 is a top view of the same.

Similar letters of reference designate corresponding parts in all the figures.

Referring first to Figs. 1, 2, and 3, A and B designate two plates, which are respectively made of copper and zinc, or other metals bearing the same electrical relations to each other. They consist of flat strips with teeth or blades *a b* projecting from the lower edge. These plates are separated from each other by strips of wood C, or other insulating material, and their teeth or blades *a b* are separated by blocks *c* of the same material. Wires D, or other electrical conductors, are fastened by screw-cups *e*, or other means, to the plates A B, and may be connected at pleasure to produce the electrical circuit.

Referring now to Figs. 4 and 5, A¹ B¹ designate two circular plates, from which extend a series of radial teeth or blades, *a¹ b¹*. Like the plates A B they may be made, respectively, of copper and zinc, or other suitable metals, and they are insulated by blocks of wood or other suitable material C¹. From the plate A¹ extends a tubular shank, E, and from

the plate B¹ a rod, F, extends through, and, preferably, beyond said shank, it being insulated therefrom in any suitable manner. In this case the wires or electrical conductors are connected, one with the shank E and the other with the rod F.

Referring now to Figs. 6 and 7, A² B² designate annular or ring-shaped plates of copper and zinc, or other suitable materials, and *a²* series of teeth or blades extending from them. These plates are separated by strips of wood C², or other insulating material. Wires or electrical conductors are connected with the plates A² B² as to the plates A B.

Although I have only shown these three distinct styles of carrying out my invention, I do not intend to confine myself to them, but may make electric piles of other forms embodying the same principle, namely, the plates and insulated teeth or blades, made of metals of different electric properties.

These electric piles are inserted in moist earth or sand, or in a gaseous place, and the consequent action upon the metals produces an electric current. If urine or liquid chloride of sodium, or an analogous substance, is poured on the earth or sand where the electric pile is inserted, the action upon the metals will be stimulated, and a very intense electric current be produced, and may be intensified at will.

A very good place to insert these piles is in a urinal, cess-pool, or privy, or dung-hill, as in such a place a strong current will be constantly produced, and the necessity for supplying liquid is obviated.

It is obvious that if the pile be inserted in earth contained in a receptacle of imperious material, any stimulating liquid poured upon the same will be confined to the receptacle, and its action on the pile be of longer duration. Of course other substances or liquids may be used to stimulate the electric action.

I have mentioned the above because they are inexpensive, and enable me to produce an electric current at little or no cost except that of the pile.

The two styles of pile that I have represented in Figs. 1, 2, and 3, and in Figs. 6 and 7, have only their blades *a b* and *a² b²*, inserted in the ground, and their plates proper, A B A²

B², remaining above ground, as represented in the drawings. The pile represented in Figs. 4 and 5 has the plates A¹ B¹ and teeth or blades a¹ b¹ inserted in the ground, and the tubular shank E and rod F project above ground, as shown in the drawing.

This pile is very superior to any of which I have knowledge. It embodies in its construction a smaller amount of metal, but a far greater extent of effective surface, to produce an electric current of a given strength than any other electric pile. The pairs of blades or teeth are so far separated that the moist earth or sand will more effectively come in contact with every part of that portion of the pile which is inserted in the earth than it could possibly do if the two plates of the pile were continuous. Therefore there is a larger effective surface than if the pile were otherwise constructed. This, however, is not the

only advantage due to this construction of pile, for the plates proper, or shank and rod E F, constitute a receiver or accumulator of the electricity generated on the teeth or blades.

What I claim as my invention is—

The electric pile, consisting of plates of copper and zinc or other metals, bearing similar electric relations to each other, provided with series of teeth or blades, and insulated by strips, slats, or blocks of wood, or other suitable material, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

JULES CERPAUX.

Witnesses:

FELIX DE KERT,
A. HAUSTZ.

(No Model.)

G. F. DIECKMANN.
ELECTRIC EARTH BATTERY.

No. 329,724.

Patented Nov. 3, 1885.

Fig. 1.

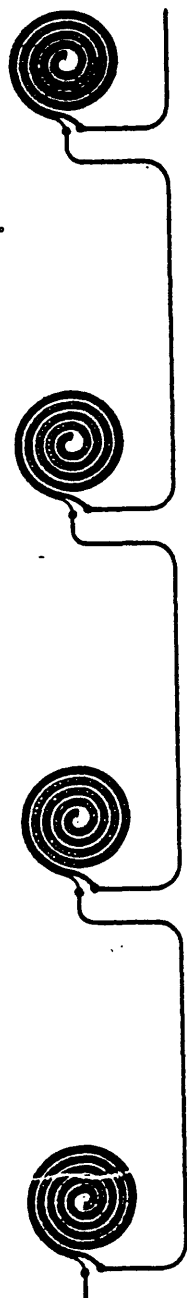
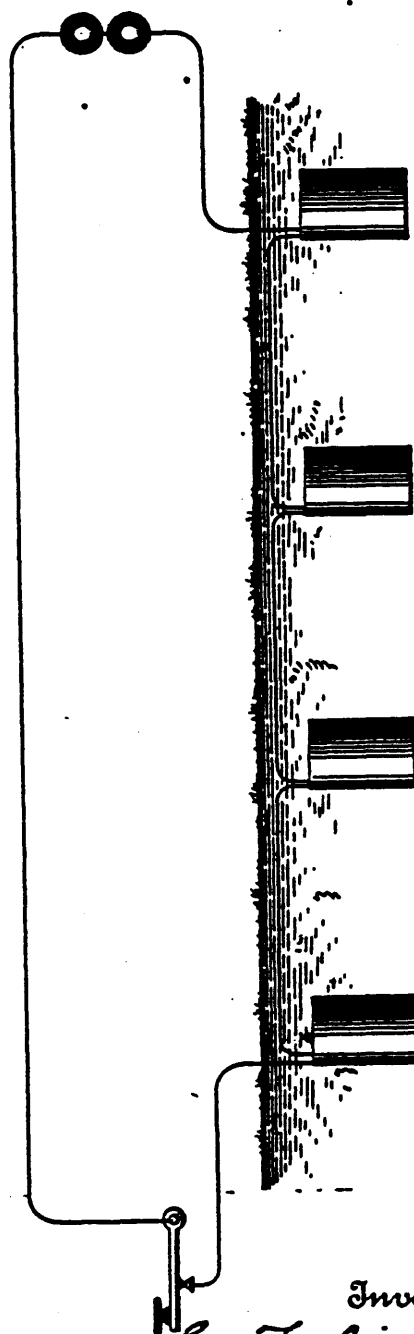


Fig. 2.



Witnesses

Geo. W. Brock.
Jas. J. Maguire

Inventor

Geo. F. Dieckmann
By his Attorneys
Curtis & Brock

UNITED STATES PATENT OFFICE.

GEORGE F. DIECKMANN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-FOURTH
TO PAUL GMEHLIN, OF SAME PLACE.

ELECTRIC EARTH-BATTERY.

SPECIFICATION forming part of Letters Patent No. 329,724, dated November 3, 1885.

Application filed June 15, 1885. Serial No. 168,690. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. DIECKMANN, a citizen of Germany, residing in the city, county, and State of New York, have invented
5 a new and useful Electric Earth-Battery, of which the following is a specification.

Earth-batteries, consisting of electrodes buried in the earth, as heretofore constructed, have not been capable of giving an electro-
10 motive force greater than that obtainable from a single couple—which is too small for practical purposes—because, if a number of couples or elements were used and connected in series all the couples stood in the same electrolyte
15 and short-circuited one another. By my invention I am enabled to bury a series of couples in the same body of earth and connect them together in series, so as to obtain from such a battery an indefinitely high electro-
20 motive force sufficient for charging storage-batteries, operating electric bells, telegraphic and other purposes, &c.

To this end my invention consists in arranging the electrodes in such a way that the resistance between the electrodes of each couple
25 is small, while the resistance between the couples is relatively large, and connecting the negative electrode of each with the positive electrode of the next by a low-resistance conductor, so that the short-circuiting effect of
30 the couples upon each other may be indefinitely reduced, and the effect is practically the same as if the couple were immersed in separated electrolytes. To arrange the relative
35 resistances so as to produce this effect I place the two electrodes of each couple comparatively near together, and the separate couples relatively far apart, so that the resistance between one electrode of one couple
40 and the same electrode of the next couple is very much greater than the resistance between the two electrodes of the same couples, and consequently the short-circuiting effect is reduced comparatively to nothing.

45 My invention is illustrated in the accompanying drawings, Figure 1 representing my arrangement of electrodes in plan, and Fig. 2 showing them in elevation buried in the earth.

In my battery any electrodes may be used,
50 and they may be of any desired size and shape;

but in order to make the internal resistance of the battery as low as possible and obtain a cheap construction, I prefer to form each element or couple of zinc and copper plates or
5 sheets separated the proper distance by a sheet of felt, asbestos, or other suitable non-conducting material and rolled up in a spiral form, as clearly represented in the drawings, by which means I obtain a compact element
60 having a large surface with a small distance between the plates, and consequently a very low resistance. The zinc plate being the one most acted upon should be made the thicker, as I have indicated. Having constructed any
65 desired number of these elements according to the electro-motive required, I bury them in the earth at a proper depth in any desired positions, but relatively far apart, so that the distance between them is great compared with
70 the distance between the two electrodes of any one couple. The negative plate of each couple is then connected with the positive plate of the next through the series, as represented—and the terminals of the battery thus formed
75 are connected with the circuit to be supplied, a telegraph-circuit, as represented, for example. The wires connecting the couples should preferably be insulated where they come near
80 together below ground, to prevent short-circuiting there. I have shown them entirely buried in the earth; but of course they may be laid above ground. The distance apart that
85 the couples should be placed depends upon the resistance of the telegraphic or other working circuit. If its resistance be very high, then the couples should be much farther apart,
90 in order that the difference of potential between one electrode of one couple and the same electrode of the next couple may be high compared with the difference of potential between the two electrodes of the same couple. Similarly, the end couples of the battery should be so far apart with reference to the resistance of the working-circuit that the resistance
95 between them through the earth is great compared with the resistance of the working-circuit, so that the working-circuit will not be short-circuited; or, to express it more accurately, the earth-resistance between the end
100 couples should be so high that the fall of po-

tential through it is great compared with the fall through the working-circuit. This effect is obtained by making the distance between the end couples correspondingly greater than that between adjacent couples—by arranging the couples in a straight line, for example. By thus properly proportioning the resistance between the couples to the circuit-resistance and internal resistance of the couples, the short-circuiting effect may be reduced more or less to an insignificant amount, and any desired electro-motive force obtained from the battery.

I claim as my invention—

1. An earth-battery consisting of a number of couples or elements buried in the earth and connected in series, the two electrodes of each couple being placed near together, while the

couples or elements are placed comparatively far apart, whereby the short-circuiting effect of the couples upon each other is avoided, and an indefinitely high electro-motive force obtained.

2. An earth-battery consisting of a number of couples or elements composed of sheet-electrodes rolled up in a spiral form and buried in the earth and connected in series, the couples being arranged comparatively far apart, whereby the short-circuiting effect of the couples upon each other is avoided.

June 12, 1885.

GEORGE F. DIECKMANN.

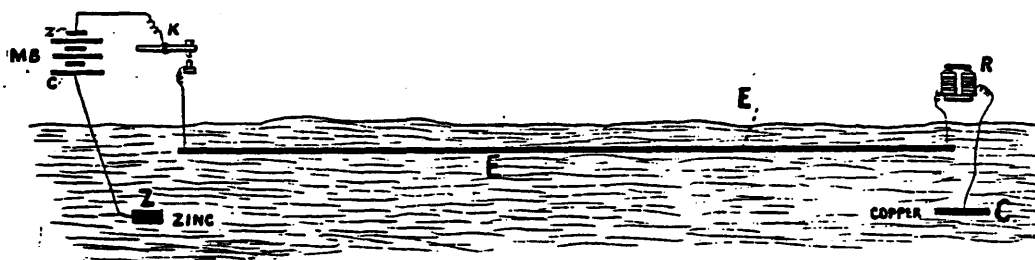
Witnesses:

FRANCIS B. CROCKER,
CHAS. J. MAGUIRE.

S. J. M. BEAR.
TELEGRAPHIC CIRCUIT.

No. 192,856.

Patented July 10, 1877.



Witnesses

Chas. H. Smith
Harold Lowell

Inventor

Simeon J. M. Bear.

for Lemuel W. Lowell.
att'y

H. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

ETHERFORCE

UNITED STATES PATENT OFFICE.

SIMEON J. M. BEAR, OF MITCHELL, IOWA.

IMPROVEMENT IN TELEGRAPHIC CIRCUITS.

Specification forming part of Letters Patent No. 192,856, dated July 10, 1877; application filed October 6, 1875.

To all whom it may concern:

Be it known that I, SIMEON J. M. BEAR, of Mitchell, in the county of Mitchell and State of Iowa, have invented an Improvement in Telegraphic Circuits, of which the following is a specification:

This invention is made for employing a non-insulated conductor, such as a gas-pipe or wire laid in the earth or in water, for conveying the electric pulsations from one station to another without the use of any return-circuit connection except that afforded by the earth itself. This improvement I designate the "terraqueous telegraph."

In the annexed diagram these circuit-connections are represented.

The main battery M B is provided with a metallic connection passing from the zinc or negative pole through the key K to the wire, pipe, railway-bar, or other continuous metallic connection, E, to the distant station, where the relay or receiving instrument R is connected in such metallic circuit, and also to a copper plate, c, that is buried in the earth. The copper pole of the main battery M B is also connected to the earth by a zinc plate, either naked, immersed in acid, or a solution of sulphate of zinc in a porous cup, and these are buried in the earth or immersed in water upon the earth.

The wire, pipe, or other non-insulated metallic connection, E, should be of zinc or coated with zinc, or of the same polarity as the zinc,

in order that the whole of the electric current may not return from the main battery directly through the earth and through E to the battery, but a portion will pass to the copper element c at the distant station, in consequence of the electric repulsion of the conductor E, and the resistance offered in passing from the buried zinc plate z to the negative pole of the battery; hence sufficient of the current will pass to and return from the buried copper plate c at the distant station to record the message in the receiving-instrument R.

By reversing the connections to the main battery and using a copper wire at E, sulphate of copper or a copper plate at z, and a zinc plate at c at the distant station, the electric current will flow in the opposite direction, as the currents from like metals repel and flow to the metal of opposite polarity at the distant station.

I claim as my invention—

A telegraphic circuit composed of a main battery connected to the earth, a non-insulated conductor to the distant station, of metal of the same polarity as the pole of the battery to which it is connected, and a plate buried at the distant station of opposite polarity, substantially as set forth.

Signed by me this 7th day of May, 1875.

S. J. M. BEAR.

Witnesses:

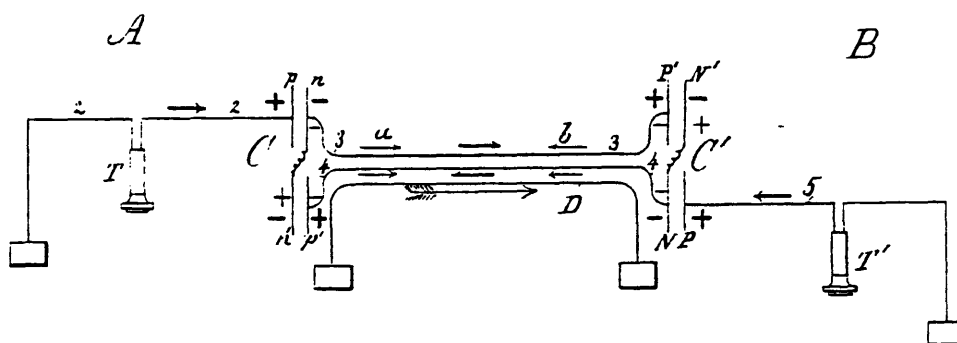
D. LINDSLEY,
F. VAN HOOSER.

(No Model.)

W. W. JACQUES.
Electric Circuit.

No. 241,371.

Patented May 10, 1881.



Witnesses.
Arthur Reynolds.
Samuel J. Vogel

Inventor.
William W. Jacques.
By Crosby & Gregory Attys

N. PETERS, Photo-Lithographer, Washington, D. C.

ETHERFORCE

UNITED STATES PATENT OFFICE.

WILLIAM W. JACQUES, OF BOSTON, MASSACHUSETTS.

ELECTRIC CIRCUIT.

SPECIFICATION forming part of Letters Patent No. 241,371, dated May 10, 1881.

Application filed March 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. JACQUES, of Boston, county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in Electric Circuits, of which the following description, in connection with the accompanying drawing, is a specification.

My invention relates to an electric circuit or arrangement of conductors and other apparatus, as hereinafter described, forming a continuous line of communication for the transmission of electric impulses, and has for its object to prevent inductive disturbances from neighboring parallel lines, and is especially intended to be used where the line is exposed to disturbing influence only for one or more detached portions of its length not starting from either terminal thereof.

The inductive disturbances have been neutralized effectively by a plan involving the use of a circuit wholly metallic in the region exposed to inductive disturbance, and in order to make a complete operative circuit the said metallic or double-wire circuit has to be extended from one terminal station through all the exposed regions, at the end of which one wire may be grounded and the other extended onto the other terminal station and there grounded, or, by another plan, suitable apparatus is employed to transmit the electrical impulses from a single wire or grounded circuit to a double wire or metallic circuit traversing the disturbed region, and from this again to a grounded circuit, as shown and described in the Patent No. 232,788, dated September 28, 1880, to which reference may be had, in which induction-coils were employed to transmit the impulses from one circuit to another.

In the present invention two separate insulated wires are employed in the disturbed region, and single wires are employed outside of the said region, and suitable transmitting apparatus, as hereinafter described, is interposed between the single and double wire portions of the entire line by which an electric impulse in the single wire will impart substantially equal and opposite impulses to the two wires in the disturbed region, and these equal and opposite impulses in the two wires will again impart a single impulse to the single wire at the other

end of the disturbed region. The equal and opposite impulses will produce no effect by induction upon a neighboring wire equally exposed to both, and consequently the transmission of messages over the line will produce no disturbance, and the transmitting apparatus is of such nature that equal and similar impulses in the two wires (such as produced by induction from a neighboring wire) will not impart any impulse to the single wires outside of the disturbed region.

The transmitting apparatus consists of a condenser system which may conveniently be described as consisting of two condensers of common construction, one coating of one of the said condensers being connected with the single line, and the other coating connected with one wire of the double line traversing the exposed region, and also connected with one coating of the other condenser, the other coating of which is connected with the other wire of the double line.

The arrangement of wires or conductors and condensers is illustrated in the drawing, in which the heavy signs and arrows show how an electric impulse produced at one end of the line produces a similar impulse at the other end, and the light arrows and signs showing the manner in which similar impulses in the two wires, such as produced by induction from a neighboring wire in the exposed region, are neutralized in their action on the single wire, thus producing no effect therein.

The main line 2 is grounded at the terminal station A, where it passes through the telephone T, or other instrument for producing electrical impulses, and thence passes to the region exposed to inductive disturbance, which may be, for example, traversed by a cable including several wires. The line-wire 2 is there connected with one of the coatings or series of plates *p* of a condenser apparatus, C, the other coating, *n*, of which is connected with a line, 3, traversing the disturbed region, and also with another coating, *n'*, arranged to act on still another coating, *p'*, connected with another line, 4, traversing the exposed region, and insulated from the wire 3 and other parallel conductors. The wires 3 & 4 will be twisted together or otherwise arranged so that the mean or average distance of each from any

neighboring conductor is the same, and they are connected at their other ends with the coatings $P' N$ of a condenser apparatus C' similar to the one C already described. The coating N is connected with another coating, N' , affected by the coating P' connected with the wire 3 and a coating, P , under the inductive influence of the coating N is connected with the line 5 leading toward the other terminal station, B , where it is grounded after passing through the instrument T' .

The coatings $N N'$ and $n n'$ may be considered as two portions of the same set of connected surfaces, and it is obvious that a single condenser of ordinary construction may be employed, having a portion of one set of leaves—*i. e.*, p —connected with line 2, and the rest of that set—*i. e.*, p' —connected with the line 4, while the whole other set, $n n'$, is connected with the line 3.

The operation in transmitting an impulse from one station to another, as from A to B , is as follows, the currents being indicated by the heavy arrows which represent positive electricity: A positive impulse or current generated by the instrument T charges the coating p with positive electricity, and this, in the well-known manner, acts on the coating n to charge it with negative electricity which has to be drawn from the line 3, the electricity of which is decomposed, the positive being sent, as indicated by the arrow, to the coating P' , which it charges positively, as indicated by the heavy sign $+$. The negative electricity drawn to the coating n will also charge the connected coating n' , and this in acting on the coating p' will draw a charge of positive electricity from the line 4, as indicated by the heavy arrow, and will send the negative electricity to charge the coating N , this effect being also increased by the action of the coating p' on the one N' connected with the one N . The negative charge on the plate N attracts a charge of positive electricity from the earth through the line 5 and instrument T' therein, as indicated by the arrow. A negative impulse produced at T will, in like manner, be reproduced at T' , and impulses produced at T' will be reproduced at T , and in the transmission equal and opposite currents or impulses will be produced in the lines 3 4, which will just balance and neutralize one another as far as any effect on neighboring lines is concerned. An impulse in any neighboring line, as D , will produce, by induction, like currents in the wires

3 4, the direction or polarity of which will depend on the polarity of the current in the disturbing line and whether the charge is increasing or decreasing at a given point. If the currents be such as represented by the light arrows at a —that is, positive currents away from the condenser apparatus C —they will leave the plates p' and n charged with negative electricity, and that in the plate p' acts on the plate n' to produce positive electricity in the plate n' , which neutralizes the negative charge in the coating n , so that no effect is produced in the coating p and line 2. In a similar manner the currents represented by the arrows at b produce unlike charges in the coatings $N N'$, which neutralize one another, so that no effect is produced in the line 5.

It is obvious that there might be two or more exposed portions of the line provided with double wires and suitable condenser apparatus, and that the line may be employed to transmit or reproduce any kind of variable, undulatory, or intermittent impulses, such as telephonic or magneto-electric currents produced by any suitable generator.

I claim—

1. In a line of electric communication, the single wire or conductor and double wire or conductor combined with condenser apparatus, the coatings of which are connected with the said conductors, as described, whereby an impulse or current in the single wire will produce equal and opposite impulses in the two wires of the double conductor, and equal and opposite impulses in the double conductor will produce a single impulse in the single conductor, and equal and similar impulses in the double conductor will produce no effect in the single conductor, substantially as described.

2. The single wire and double wire combined with the condenser, having one set of coatings connected with the said single wire, and a portion of a second set of coatings affected thereby connected with one of the double wires, and a third set of coatings affected by the other portion of the said second set and connected with the other one of the said double wires, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM W. JACQUES.

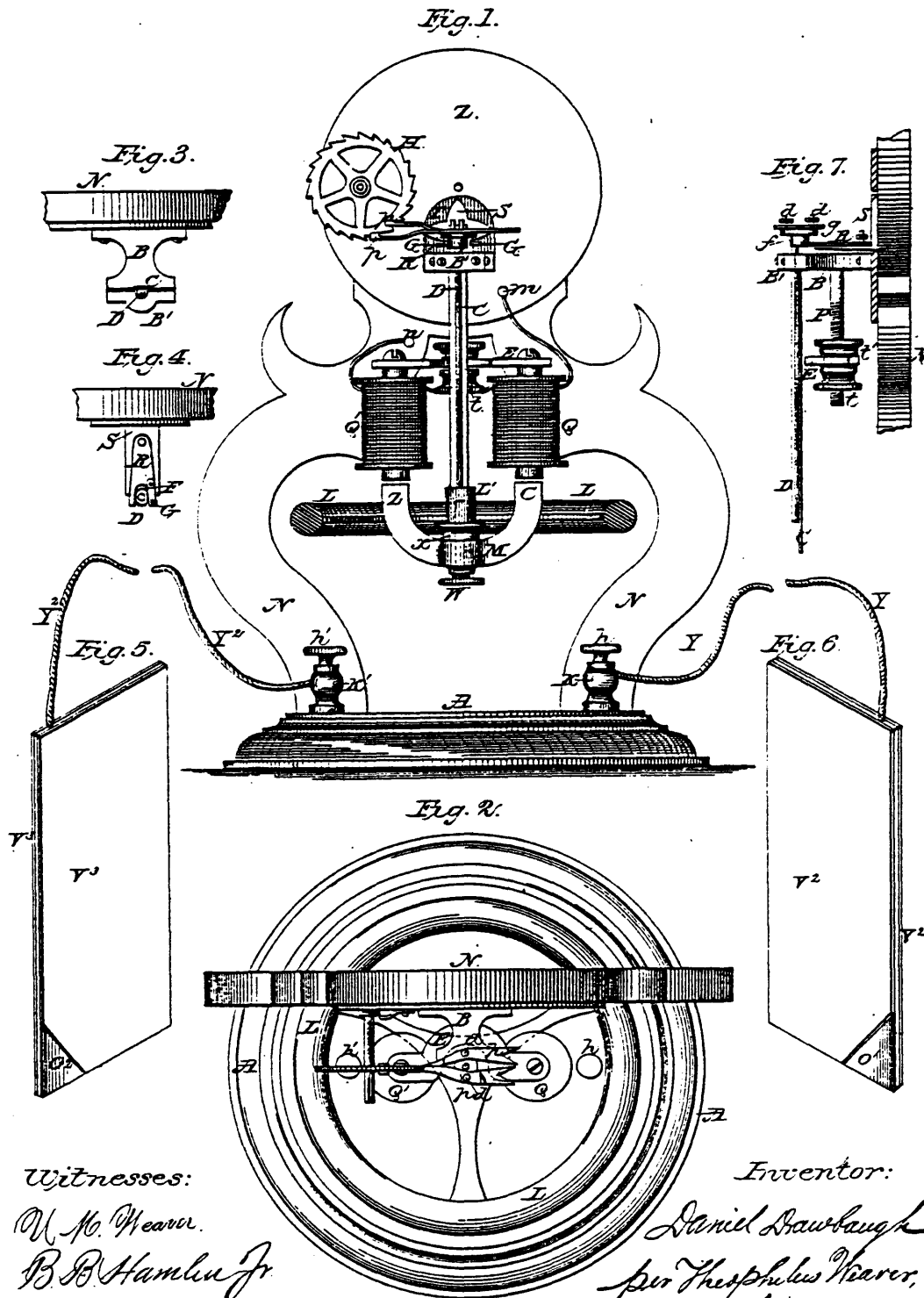
Witnesses:

JOS. P. LIVERMORE,
BERNICE J. NOYES.

D. DRAWBAUGH.
Earth-Battery for Electric-Clocks.

No. 211,322.

Patented Jan. 14, 1879.



Witnesses:
W. H. Weaver.
B. B. Hamlin Jr.

Inventor:
Daniel Drawbaugh
per Theophilus Weaver,
his Atty.

H. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DANIEL DRAWBAUGH, OF EBERLY'S MILLS, ASSIGNOR TO THEODORE GRIS-
SINGER, OF MECHANICSBURG, AND JACOB H. GRISSINGER AND JACOB E.
SHETTEL, OF SHEPHERDSTOWN, PENNSYLVANIA, ONE-FOURTH TO EACH.

IMPROVEMENT IN EARTH-BATTERIES FOR ELECTRIC CLOCKS.

Specification forming part of Letters Patent No. 211,322, dated January 14, 1879; application filed
September 20, 1878.

To all whom it may concern:

Be it known that I, DANIEL DRAWBAUGH, of Eberly's Mills, county of Cumberland, and State of Pennsylvania, have invented an Improvement in Earth-Batteries, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification.

The nature of my invention is briefly stated to be an earth-battery consisting of an electric couple of plates of opposite electric properties, peculiarly protected by certain other substances, and prepared as a new article of manufacture by having said protecting substances applied fixedly to said plates by any suitable adhesive.

The object of my invention is to provide a suitable means to procure and apply to use native electricity from the earth to replenish permanent magnets at intervals between times of their engagement—as parts of motor mechanism employed to run clocks, sewing-machines, or other machinery—said magnets being thus kept saturated with the electricity derived from the earth to a maximum degree, or to a degree above the power required to run any given motor.

In the accompanying drawings, O¹ represents a copper plate, coated by a layer of powdered coke, forming an enveloping-body, V², thereon, and fixed thereon by any suitable adhesive; and O² represents a zinc plate, coated or covered by a layer of felt, V³, or any texture formed of hair, wool, or of other animal matter, stuck on said plate by any suitable adhesive. Said plates are provided with said coats V² and V³, respectively, for two purposes—first, to form effectual connection between the plates and the earth in such manner that the plates may be protected against oxidation and consequent corrosion and change of constitution; second, that said plates may be a complete new article of manufacture, having their adherent substances fixedly attached to them, as stated, so that they need only be embedded in the earth to be ready for use when the battery-connections are made with any suitable train it is designed to move.

In the accompanying drawing, Figure 1 represents a front elevation of the skeleton of a vase-clock, the vase, train of wheels, dial, and hands being omitted. Fig. 2 represents a top view of the same. Fig. 3 represents a sectional view of a bracket, from which the actuating mechanism of the clock is suspended. Fig. 4 represents a bracket, on which the electric brake is located. Figs. 5 and 6 represent the zinc and the copper plates, respectively, shown protected by coatings, as in my improved earth-battery. Fig. 7 represents an edge view of the subjects of Figs. 3 and 4, and sections of clock-standard and suspenders of magnets.

The skeleton-clock above referred to is herein described only in part, as it is herewith connected merely as an illustration of the application and use of my improvement in earth-batteries, it being reserved for a more complete specification in a separate application for patent, hereafter to be made.

Said copper and zinc plates O¹ and O², respectively, are provided with insulated conductors Y Y², respectively, which are joined to said plates by soldering; and they are connected at their other extremities, by the binders K k K' k', with conductors on the under side of base A, and on the rear side of uprights N with the electro-magnet Q Q' by conductors m n, said electro-magnet being a part of my earth-battery, and it is suspended by rod P from bracket B, to which it is adjustably connected by the thumb-nuts t t' on opposite sides of the frame E.

M represents a permanent magnet, such as it is the object of my earth-battery to supply with magnetism at intervals of its engagement. Said permanent magnet has its poles *a c* arranged to vibrate horizontally by or past the poles of electro-magnet Q Q', and it is mounted centrally in the balance-wheel L, to the hub of which it is adjustably clamped by screw W. Said balance-wheel L and magnet M are unitedly suspended by a thin strip of spring-steel, C, on bracket B, and therefore they are allowed limited vibration, actuated by the power of attraction and repulsion of the magnets M and Q Q', said steel strip or ribbon of steel C acting as a torsion-spring to limit the vibration. A

rod, D, also connected with balance-wheel hub L', loosely passes through bracket B, and has firmly fixed on its top the cross-head *g*, which is provided with the pins *d d* thereon, by which the pallets *p p* are held balanced on said cross-head, and are actuated thereby while it vibrates or rocks to move the ratchet-wheel H, which may move any suitable clock-train mounted on base-plate Z.

On bracket S a pivoted plate, R G, is applied dividedly to the eccentric part *f* on rod D, in such manner that the device acts as an electric-circuit opener and closer alternately at every forward and backward stroke of the balance-wheel L.

The object of the last-described device is to complete the circuit from the earth through the electro-magnet Q Q' at every return stroke of said wheel L, and thus replenish the permanent magnet M at the intervals when repulsion of the poles of the magnets is occurring.

It is well known that when permanent magnets are being used in attracting and repelling while actuating parts of machinery in motors they gradually lose their maximum of magnetic power, being successively more and more depleted or robbed at every stroke or pass of the impelled mechanism, and therefore the motor becomes unreliable in all situations where uniformity of motion is required. To prevent such exhausted or impaired condition of such magnets I employ my improved earth-battery, coupled in suitable manner with an electro-magnet, arranged in proper proximity to such permanent magnet to supply it constantly to saturation with electricity or native magnetic influence from the earth. My improvement, there-

fore, insures the permanence of the natural magnet as a regular power in a motor, and it may be successfully applied to clocks, sewing-machine motors, and other machinery. The clock in the accompanying drawing suggests by its form how it may be used on vessels at sea, as the battery may also be employed in water.

Having thus fully and clearly described my invention, what I regard as new and useful, and what I desire to secure by Letters Patent of the United States, is embraced in the following claims:

1. As a new article of manufacture, an earth-battery or couple composed of a copper and a zinc plate, both protected fixedly by enveloping bodies of coke and felt, respectively, or of equivalent substances, applied by adhesives to said plates, ready made for use, in the manner and for the purpose substantially as set forth.

2. The earth-battery or electric couple composed of the copper plate O¹, fixedly protected by coating of coke V², and the zinc plate O², fixedly protected by coating of felt V³, or said plates fixedly protected by equivalent substances, in combination, by conductors, with a permanent magnet in a motor-train, for replenishing said magnet with electricity from the earth through an electro-magnet, Q Q', substantially as set forth.

In testimony that I claim the foregoing as my invention I have hereunto set my hand this 13th day of September, 1878.

DANIEL DRAWBAUGH.

Attest:

THEOPHILUS WEAVER,
PETER STUCKEY.

Patented Sept. 22, 1874.

THE GRAPHIC CO. PHOTO-LITH. 394 41 PARK PLACE, N.Y.

ÆTHERFORCE

UNITED STATES PATENT OFFICE.

WILLIAM D. SNOW, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN EARTH-BATTERIES FOR GENERATING ELECTRICITY.

Specification forming part of Letters Patent No. 155,209, dated September 22, 1874; application filed June 6, 1874.

To all whom it may concern:

Be it known that I, WILLIAM D. SNOW, of Brooklyn, in the State of New York, have invented a certain Improvement in Earth-Batteries for Electro-Magnetic Alarms, &c.; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawing, which represents a series of electro-magnetic signaling or alarm apparatus placed in a house and operated by a current derived from an earth-battery, as hereinafter more fully set forth.

The object of my invention is to avoid the employment of artificial electric batteries for the purposes of house-signaling, fire and burglar alarms, and for the operation of other circuits.

In the common systems employed for these purposes a local or house battery is employed, requiring to be kept in working order by the occupants of the building in which it is placed, who are usually entirely ignorant of its structure and uses; or else the street line of wires is carried into the house, and thus subjected to all the contingencies to which the house itself is liable.

I obviate the trouble, annoyance, and danger to public safety incident to the systems referred to, by employing the current from an earth-battery without the intervention of any cups or vessels containing acids or other agents for the decomposition of zinc or other metals, commonly called a "battery." This I effect by making use of an earth-battery formed by burying the electrodes in the earth under the house at the depth of permanent moisture, so that the action of the dampness of the earth upon the plates will develop a sufficient permanent current for the required purposes. From these buried plates I run a telegraphic circuit in the house to connect with thermostats, signaling apparatus, fire and other alarms, annunciators, gas-lighters, or repeaters, according to the nature of the

use to which the electric current is to be applied.

Some attempts have been made to use earth-batteries for various purposes. Such earth-batteries were made by simply burying a single set of elements in the earth, and proved of little or no practical value, on account of the very feeble intensity of the current generated. I have discovered, however, that if a series of elements be used in the earth, coupled together so as to form an earth-battery of any required size, this objection is obviated, and a constant current of considerable intensity is obtained, capable of operating steadily quite an amount of apparatus.

In the drawing, A and B mark two series of electrodes, which may be of zinc and carbon, as marked C and Z, buried in the earth under the house in which the circuit is to be used, the wire *d* being a connection between the dissimilar elements of the two series; C D, the wires for conducting the current, which may be made to complete the circuit by passing through E, an automatic thermostat; F, a repeater, connected with the street-wires J J; G, an annunciator; H, a fire-annihilator; or I, a signal-writing-bar apparatus, either one or more of these, each operated by the current in any of the usual modes.

What I claim is—

1. The improved earth-battery, consisting of a series of elements buried in the earth and connected together to form a battery, substantially as and for the purposes set forth.

2. The combination of two or more electric currents or circuits, when one of these is a current derived from an earth-battery, substantially as described, and is employed to operate the other or others.

The above specification of my said invention signed and witnessed at Washington this 30th day of May, A. D. 1874.

Witnesses:

W. D. SNOW.

W. P. BELL,

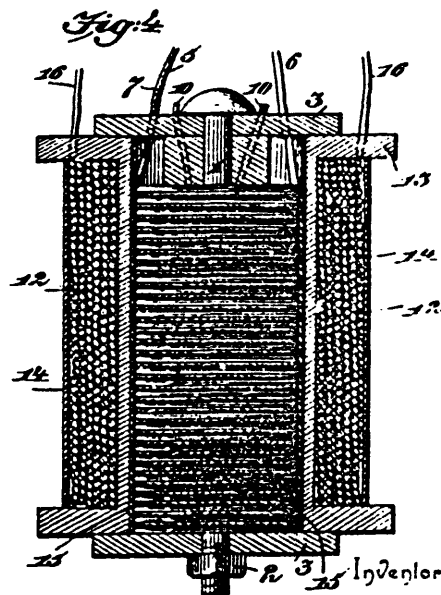
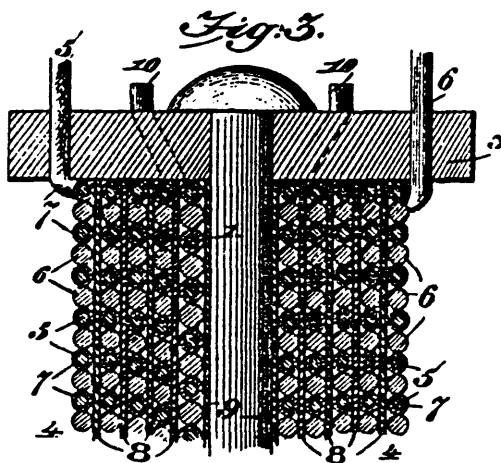
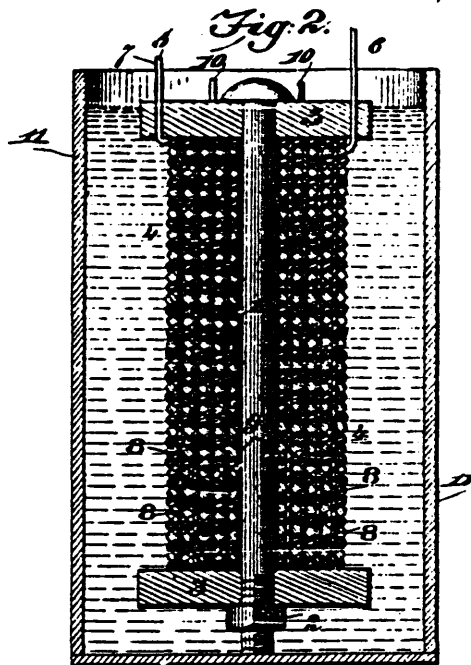
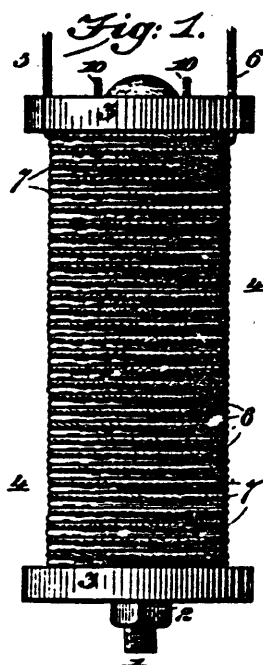
CHAS. F. STANSBURY.

(No Model.)

N. B. STUBBLEFIELD.
ELECTRICAL BATTERY.

No. 600,457.

Patented Mar. 8, 1898.



Witnesses

H. S. Dieterich
St. Paul, Minn.

By *H. S. Dieterich* Attorneys.

Nathan B. Stubblefield

Chas. H. Snow & Co.

UNITED STATES PATENT OFFICE.

NATHAN B. STUBBLEFIELD, OF MURRAY, KENTUCKY, ASSIGNOR OF ONE-HALF TO WILLIAM G. LOVE, OF SAME PLACE.

ELECTRICAL BATTERY.

SPECIFICATION forming part of Letters Patent No. 600,457, dated March 8, 1898.

Application filed October 24, 1896. Serial No. 609,969. (No model.)

To all whom it may concern:

Be it known that I, NATHAN B. STUBBLEFIELD, a citizen of the United States, residing at Murray, in the county of Calloway and State of Kentucky, have invented a new and useful Electrical Battery, of which the following is a specification.

This invention relates to electrical batteries; and it has for its object to provide a novel and practical battery for generating electrical currents of sufficient force for practical use, and also providing means for generating not only a constant primary current, but also an induced momentary secondary current.

It is well known that if any voltaic couple be immersed in water or placed in moist earth the positive element of the couple will undergo a galvanic action of sufficient intensity to produce a current when the terminals of the couple are brought in contact, and this form of battery is commonly known as the "water" battery, usually employed for charging electrometers, but not capable of giving any considerable current owing to their great internal resistance. Now the principle involved in this class of batteries is utilized to some extent in carrying out the present invention, but I contemplate, in connection with water or moisture as the electrolyte, the use of a novel voltaic couple constructed in such a manner as to greatly multiply or increase the electrical output of ordinary voltaic cells, while at the same time producing in operation a magnetic field having a sufficiently strong inductive effect to induce a current in a solenoid or secondary coil.

To this end the invention contemplates a form of voltaic battery having magnetic induction properties of sufficient intensity, so as to be capable of utilization for practical purposes, and in the accomplishment of the results sought for the invention further provides a construction of battery capable of producing a current of practically constant electromotive force and being practically free of the rapid polarization common in all galvanic or voltaic batteries.

With these and many other objects in view the invention consists in the novel construction, combination, and arrangement of parts

hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a side elevation of an electrical battery constructed in accordance with this invention. Fig. 2 is a central longitudinal sectional view of the battery, showing the same immersed in water as the electrolyte. Fig. 3 is an enlarged sectional view of a portion of the battery, showing more clearly the manner of winding the voltaic couple or, in other words, the wires comprising the couple. Fig. 4 is a vertical sectional view of the battery, shown modified for use with an induction-coil.

Referring to the accompanying drawings, the numeral 1 designates a soft-iron core-piece extending longitudinally of the entire battery and preferably in the form of a bolt having at one end a nut 2, which permits of the parts of the battery being readily assembled together and also quite as readily taken apart for the purposes of repair, as will be readily understood. The central longitudinally-arranged core-piece 1 of the battery has removably fitted on the opposite ends thereof the oppositely-located end heads 3, confining therebetween the magnetic coil-body 4 of the battery, said heads 3 being of wood or equivalent material. The coil-body 4 of the battery is compactly formed by closely-wound coils of a copper and iron wire 5 and 6, respectively, which wires form the electrodes of the voltaic couple, and while necessarily insulated from each other, so as to have no metallic contact, are preferably wound in the manner clearly illustrated in Fig. 3 of the drawings.

In the preferred winding of the wires 5 and 6 the copper wire 5 is incased in an insulating-covering 7, while the iron wire 6 is a bare or naked wire, so as to be more exposed to the action of the electrolyte and at the same time to intensify the magnetic field that is created and maintained within and around the coil-body 4, when the battery is in operation and producing an electrical current. While the iron wire 6 is preferably bare or naked for the reasons stated, this wire may also be insulated without destroying the operativeness of the battery, and in order to secure the best results the wires 5 and 6 are wound side by side in each coil or layer of

the windings, as clearly shown in Fig. 3 of the drawings, so that in each coil or layer of the windings there will be alternate convolutions of the copper and iron wires forming the voltaic couple, and it will of course be understood that there may be any number of separate coils or layers of the wires according to the required size and capacity of the battery. Each coil or layer of the windings is separated from the adjacent coils or layers by an interposed layer of cloth or equivalent insulating material 8, and a similar layer of insulating material 9 also surrounds the longitudinal core-piece 1 to insulate from this core-piece the innermost coil or layer of the windings.

The terminals 10 of the copper and iron wires 5 and 6 are disconnected so as to preserve the character of the wires as the electrodes of the voltaic couple; but the other or remaining terminals of the wires are brought in contact through the interposition of any electrical instrument or device with which they may be connected to cause the electric currents generated in the coil-body 4 to flow through such instrument or device.

In the use of the battery constructed as described the same may be immersed in a cell or jar 1, containing water as the electrolyte; but it is simply necessary to have the coil-body 4 moist to excite the necessary action for the production of a current in the couple, and it is also the contemplation of the invention to place the battery in moist earth, which alone is sufficient to provide the necessary electrolytic influence for producing an electric current.

It has been found that by reason of winding the couple of copper and iron wires into a coil-body the current traversing the windings of this body will produce a magnetic field within and around the body of sufficiently strong inductive effect for practical utilization by means of a solenoid or secondary coil 12, as illustrated in Fig. 4 of the drawings.

The solenoid or secondary coil 12 is of an ordinary construction, comprising a wire closely wound into a coil of any desired size on an ordinary spool 13 and incased within a protective covering 14 of mica, celluloid, or equivalent material. The spool 13 of the solenoid or secondary coil may be conveniently secured directly on the exterior of the coil-body 4 between the heads 3 with a suitable layer or wrapping of insulating material 15, interposed between the spool and the body 4, and the terminals 16 of the solenoid or secondary coil may be connected up with any instrument usually operated by secondary currents—such, for instance, as a microphone-transmitter or telegraphic relay. The magnetic field produced by the current traversing the coil-body 4 induces a secondary current in the solenoid or secondary coil 12, when the ordinary make and break of the

primary current produced within the coil 4 is made between the terminals of said coil 4. It will therefore be seen that the construction of the battery illustrated in Fig. 4 is practically a self-generating induction-coil, and it can be used for every purpose that a coil of this character is used, for as long as the coil-body 4 is wet or damp with moisture electric currents will be produced in the manner described. It will also be obvious that by reason of the magnetic inductive properties of the coil-body 4 the core-piece 1 will necessarily be magnetized while a current is going through the body 4, so that the battery may be used as a self-generating electromagnet, if so desired, it being observed that to secure this result is simply required connecting the extended terminals of the wires 5 and 6 together after wetting or dampening the coil-body.

Many other uses of the herein-described battery will suggest themselves to those skilled in the art, and I will have it understood that any changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. A combined electrical battery and electromagnet, for use with water as an electrolyte, comprising a soft-iron core-piece, and a voltaic couple of copper and iron wires insulated from each other and closely and compactly wound together in separate insulated layers to produce a solid coil-body surrounding the soft-iron core-piece, substantially as set forth.

2. An electrical battery for use with water as an electrolyte comprising a voltaic couple of insulated copper wire and bare iron wire closely wound into a coil-body, substantially as described.

3. An electrical battery for use with water as an electrolyte comprising a voltaic couple of insulated copper and bare iron wire wound side by side in separate insulated layers to produce a coil-body, substantially as described.

4. An electrical battery, for use with water as an electrolyte, comprising a voltaic couple having its separate electrodes insulated from each other and closely wound into a compact coil-body forming a self-generating primary coil when moistened and a solenoid or secondary coil fitted on the coil-body of the couple, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

NATHAN B. STUBBLEFIELD.

Witnesses:

JOHN H. SIGGERS,
W. B. HUDSON.

(No Model.)

J. S. MELLON.

ELECTRO THERAPEUTIC APPLIANCE.

No. 412,196.

Patented Oct. 1, 1889.

Fig. 1.

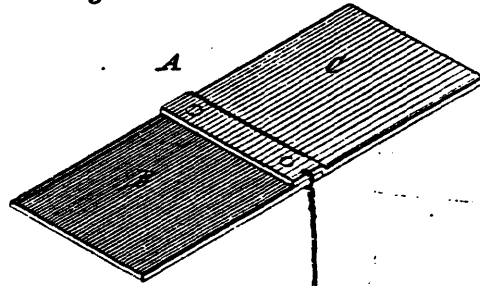


Fig. 2.

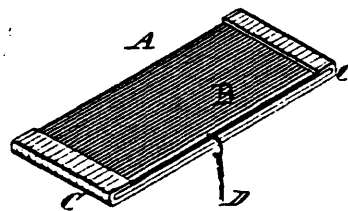
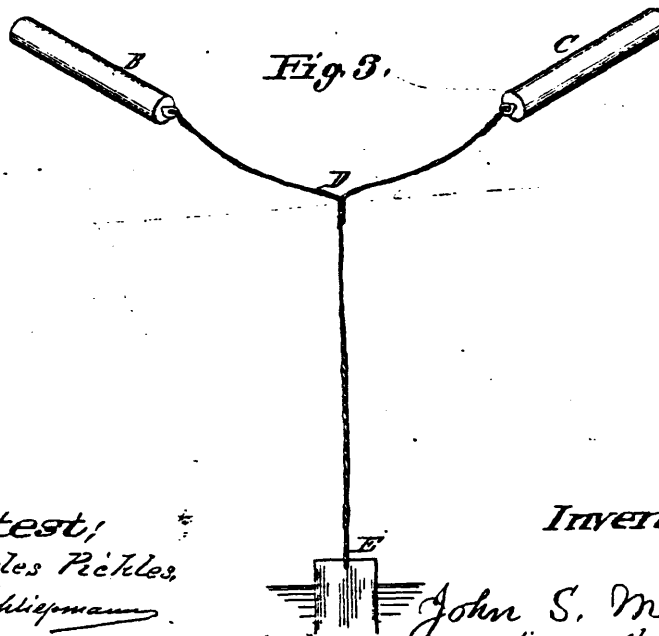


Fig. 3.



Attest:
Charles Pickles
Karl Schlegmann

Inventor:

John S. Mellon
by H. M. Thompson
att'y

UNITED STATES PATENT OFFICE.

JOHN S. MELLON, OF ST. LOUIS, MISSOURI, ASSIGNOR OF SIX-TENTHS TO G. W. LEWIS, OF SAME PLACE.

ELECTRO-THERAPEUTIC APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 412,196, dated October 1, 1889.

Application filed June 22, 1889. Serial No. 315,253. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. MELLON, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Electrical Appliances, of which the following is a specification, reference being had to the accompanying drawings and claim.

My invention relates particularly to health-giving appliances, which are adapted to generate galvanism and to both induct and educt electrical currents in connection with the human system, and to equalize such currents between it and the earth.

The invention consists of one or more galvanic pairs made of metals, which are adapted to be excited electrically by the moisture of the human body acting chemically upon the differing kinds of metal in the couples, and a metallic conductor or eductor for connecting such couples with the moist ground and with the body under treatment.

The accompanying drawings illustrate some mechanical devices for its construction.

Figures 1, 2, and 3 are views of different forms of it.

Similar letters refer to like parts throughout the several views.

It is well known that changes of conditions in matter cause changes in the electrical forces, and such changes are constantly occurring throughout nature. The human system is subject to such changes, whereby it at times is liable to be injuriously surcharged with or minus in its normal healthy electrical condition.

The object of my invention is to cure various diseases and to restore and retain health by keeping the electrical conditions of our bodies always in harmony with those of the earth, from which we have originated, so that a person in any part of a house may be in direct electrical contact with the moist earth, the same as if standing upon it.

In Fig. 1 the galvanic pair A is made of two sheets, one of copper C and one of zinc B. The copper overlaps the zinc, and they

are fastened together at one of their ends by rivets or otherwise. The ground-conductor D is a copper wire or any other suitable electrical conductor, and is properly attached to the copper and zinc pair. It extends from them down into and is buried in the moist earth. It may or may not have the ground-plant E attached to it.

In Fig. 2 the pair A is similar, except in its construction, to the pair in Fig. 1, the face of the zinc sheet B is laid on the copper sheet C, the ends of which fold over the zinc, and is adapted to be electrically excited by moisture from placing one hand on the copper and the other on its zinc plate.

Fig. 3 is a galvanic pair of handles united together by the conductor D.

C is of copper, and B of zinc, both made of sheet metal. Each of the last two pairs named have the ground-connection D, with or without the plant E. These pairs may be made in any shape or form or size, and of any metals which are adapted to be excited electrically by the moisture of the hands or feet and other parts of our bodies acting on the metallic couple, while the grounded end of the conductor D is in contact with the moist earth. By standing with the moist feet on the pair, or holding the hands thereon, or holding the handles in the hand, galvanic currents are generated in them to supply any deficiency of electricity which may exist, and means is thus provided for all electrical currents to interchange and establish harmony and equilibrium between our bodies and the earth. For invalid uses, where they are confined to beds in upper rooms, it is only necessary to lengthen and attach the conductor D to suit the situation.

I am aware of other electrical appliances which are applied to local parts of the body for the treatment of diseases—none of which, however, have any ground-connection. Such I disclaim. I am confident, however, that much greater benefits would accrue to the afflicted from the use of such devices if they were used in connection with my invention.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

5 A galvanic pair the electrodes of which are adapted to be artificially excited electrically by the moisture of any part or parts of the human system or that of any other organized life from its contact therewith, in com-

bination with a ground-conductor connecting the pair with the earth, substantially as described.

JOHN S. MELLON.

Witnesses:

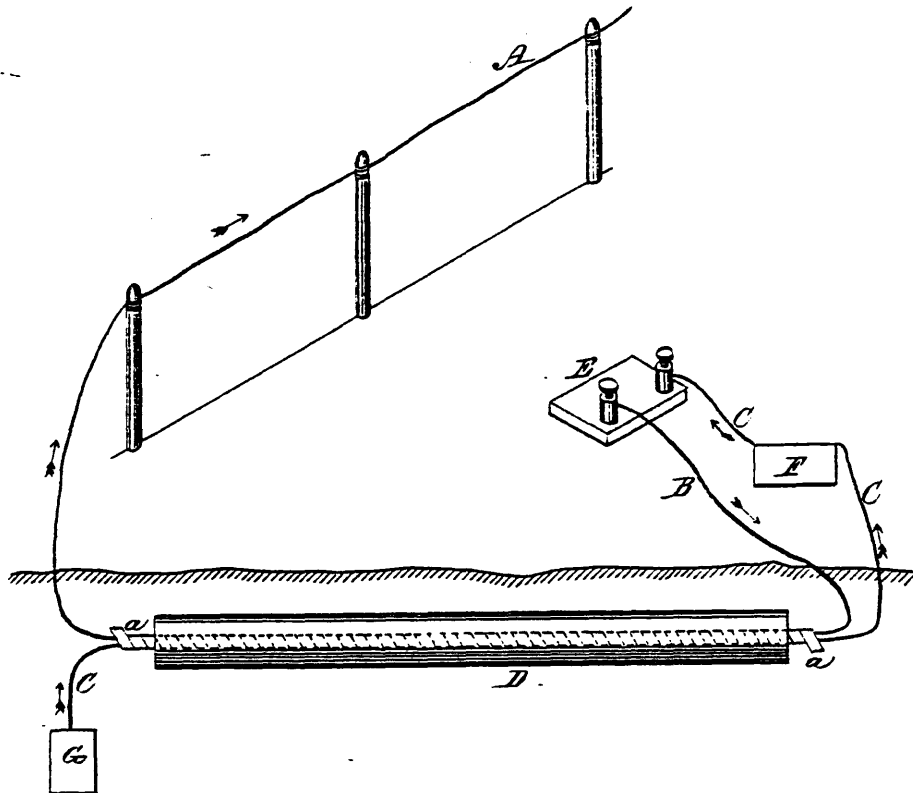
HUGH M. THOMPSON,
C. C. LOGAN.

(No Model)

H. C. SPALDING.
ELECTRIC CIRCUIT.

No. 327,495.

Patented Sept. 29, 1885.



WITNESSES :

Ally. L. Hayes
Sanford H. Dudley

INVENTOR

Henry C. Spalding

H. PETERS, Photo-Lithographer, Washington, D. C.

ETHERFORCE

UNITED STATES PATENT OFFICE.

HENRY C. SPALDING, OF BOSTON, MASSACHUSETTS.

ELECTRIC CIRCUIT.

SPECIFICATION forming part of Letters Patent No. 327,495, dated September 29, 1885.

Application filed November 19, 1883. Renewed February 22, 1885. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. SPALDING, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Electric Circuits, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

The enormous increase in the number of telegraphic, telephonic, and other conductors in cities and towns renders it necessary to make some disposition of them other than that at present generally adopted of stringing them on poles or house-tops. To bring the wires into closer proximity is obviously impracticable, hence the use of underground cables or some form of conduit is unavoidable. Inasmuch, however, as space is the main consideration, it is not customary or desirable to extend the underground or conduit systems beyond the limits of the cities, or even their more crowded portions. The lines leading out of cities, therefore, are partly under ground and partly aerial. Such lines have been found to be exposed to all the difficulties met with in those which are wholly under ground, the obstacles to rapid and perfect working, due, for example, to retardation from external currents, the immediate proximity of the earth, or to induction, and the like, being a serious hindrance.

My invention relates to circuits or lines such as those described—that is to say, which begin or which end as underground lines, the remainder being ordinary aerial lines suspended at such a distance from other wires as not to be seriously affected by induction or retardation; and it has for its object to overcome or prevent the electrical inductive effects due to the earth's electricity and to currents flowing in other conductors in very close proximity, such as is unavoidably the case in the underground portion of the system. To this end I make the underground portions of the circuit completely metallic, using two wires inclosed in an insulated metallic sheath, while for the aerial portions I use the ground as part of the circuit. This disposition will be understood from the accompanying diagram.

F represents a generator and E a receiving or transmitting instrument of a given line,

which leads from the center of a city, for example, to some distant point.

The conductors B C, forming the leading and return wires, respectively, are surrounded by a metal sheath, which is itself insulated. This sheath I prefer to form by wrapping around the insulated wires a strip of metal foil, *a*, as more fully explained by me in another application. The wires and sheath are carried through the city through an underground conduit, D, at the end of which the wire C is grounded, while the wire B is carried on to the desired point as an aerial line, A. It is obvious that this disposition of the wires may be made at either or both ends of the line. It will be seen by this arrangement that those portions of a line which are exposed to the effects of electrical induction and like disturbances are protected, while the least practicable amount of wire and insulating material are used.

I have confined the description to circuits in part aerial and in part underground. I would state, however, that the conduits containing the wires are not necessarily buried in the earth, as they may be supported above it.

I am aware that portions of an electrical circuit have heretofore been formed by the insulated conductors of underground systems; but this I do not claim, broadly. The purpose of my invention, as will be seen from the above description, is not only to lessen the effects of induction, but to prevent, also, the retardation that exists in lines or circuits that are partly aerial and partly subterranean. I have described as the best means for accomplishing this a protective underground system, invented by me and made the subject of other applications, combined with an aerial line; but it is evident that the specific character of the underground portion of the circuit may be greatly varied without departure from the invention.

I do not claim herein the specific form of cable described, as this forms the subject of another application; but

What I claim is—

1. An electric circuit composed in part of an aerial line and the ground and in part of two insulated conductors inclosed in a metal sheath in an insulating-conduit, the two conductors constituting, respectively, leading and

return wires, and the return-wire being grounded at the end of the conduit, substantially as and for the purpose specified.

2. An electric circuit consisting in part of
5 two conductors insulated from one another and inclosed within an insulated metallic sheath and in part of an aerially-suspended wire, the suspended wire and one of the insulated wires being connected to earth at or be-
10 yond the same end of the said sheath, sub-

stantially as and for the purpose herein set forth.

In witness whereof I have hereunto set my name in the presence of two subscribing witnesses.

HENRY C. SPALDING.

Witnesses:

ALEX. L. HAYES,
SANFORD H. DUDLEY.

UNITED STATES PATENT OFFICE.

EMIL JAHR, OF BERLIN, GERMANY.

METHOD OF UTILIZING ELECTRICAL EARTH-CURRENTS.

SPECIFICATION forming part of Letters Patent No. 690,151, dated December 31, 1901.

Application filed July 24, 1900. Serial No. 24,8801. (No specimens.)

To all whom it may concern:

Be it known that I, EMIL JAHR, a subject of the King of Prussia, German Emperor, residing at Berlin, in the Kingdom of Prussia and German Empire, have invented certain new and useful Improvements in Methods of Utilizing Electrical Earth-Currents, (for which I have applied for patents in England, No. 9,971, dated May 30, 1900; in France, No. 289,156, dated June 2, 1900; in Belgium, No. 118,752, dated June 2, 1900; in Germany, dated May 26, 1900, and in Russia, dated June 5, 1900,) of which the following is a specification.

It is known that continuous electric currents flow through the solid and liquid portions of the earth's crust. Lamont (*Der Erdstrom und der Zusammenhang desselben mit dem Erdmagnetismus*, Leipzig, 1862) showed the existence of such currents by thrusting two metal plates at a certain distance from each other into the ground in the direction of the magnetic or astronomical meridian and connecting them above the ground by means of a wire including a galvanometer. The stronger currents of this kind have been shown to flow from south to north. Later observations (Weinstein, *Electrotechnische Zeitschrift*, 1898, p. 794) show that this so-called "earth-current" possesses a considerable uniformity of current strength and pressure. From the fact that this earth-current flows from south to north it may be concluded that its pressure will increase if starting from a given point in the south the distance between this and the northern point is increased, provided the connecting-lead be of little resistance. Notwithstanding that these facts have been known the earth-current has never been utilized, because in order to obtain a sufficient current the distance between the north and south points must be so great that the cost of an installation is prohibitive. I have discovered that the south to north direction of the earth-current is maintained only when the plates are of the same metal. When zinc is used for the southern plate and iron or carbon for the northern one, the current flows through the lead connecting them from north to south. All the common metals behave relatively similarly—that is, the current flows always from that plate whose position in the

ordinary electrical potential series is near the negative end, (palladium.) I have also discovered that the current produced is of highest tension when the two metals are most widely separated from each other in the electrical potential series and that which is nearer to the positive end (zinc) of this series is thrust into earth or water at the more northerly point, while that which is nearer the negative end (palladium) of the series is thrust into earth or water at the southerly point. In such an arrangement the metals are not appreciably chemically corroded, even when they are in earth saturated with water, and are connected together by lead for a long time.

My invention relates, therefore, to a method for utilizing the earth-current, consisting in thrusting into the earth or water on the earth two electrodes, of which the one has a position north of the other and is of a material nearer to the positive end (zinc) of the electrical potential series than is the material of the other electrode and connecting the two above ground by a lead. It is advantageous that the northerly more electropositive electrode should be thrust more deeply into the earth or water than the southerly electrode, for then the current is stronger. The best result as to strength of current and pressure is obtained when this difference in depth is such that a line joining the two electrodes is in the direction of the magnetic dip. The best effect, therefore, is obtained when these conditions are combined—namely, when the two electrodes are approximately in the magnetic meridian and are of materials widely separated in the electrical potential series and the northerly and more electropositive electrode is buried at a greater depth than that at which the southerly electrode is buried and that a line joining them has the inclination of the magnetic dip. The current can be tapped from the lead joining the electrodes and utilized in any well-known manner.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A method of utilizing electrical earth-currents consisting in placing electrodes occupying different positions in the electrical potential series into the earth or water so that the electrode which is nearer the negative end of the series is at the more southerly point,

while the electrode which is nearer to the positive is at the more northerly point, and connecting the two electrodes together by a lead, the northern electrode being inserted deeper into the earth or water than the southern one, substantially as described.

2. A method of utilizing electrical earth-currents consisting in placing electrodes occupying different positions in the electrical potential series into the earth or water so that the electrode which is nearer the negative end of the series is at the more southerly point, while the electrode which is nearer to the positive

is at the more northerly point, and connecting the two electrodes together by a lead, the insertion of the electrodes into the earth or water at such heights that a line connecting the same is situated in the direction from north to south, and also in the direction of the magnetic dip, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

EMIL JAHR.

Witnesses:

WOLDEMAR HAUPT,
HENRY HANSEN.

1725. *Experiments on Earth Currents.* E. Jahr. (Elektrotechn. Zeitschr. 21 pp. 195-197, March 6, 1902.)—Pairs of electrodes of the same or different materials, various metals and carbon or coke, or iron pipes, are buried in the ground or water near Berlin and connected by an insulated copper wire resting on china insulators above ground; the connecting wire, up to 1 km. in length, lies in the magnetic meridian. Weak currents are observed, the best results being obtained when the northern electrode is sunk to a lower level than the southern (magnetic inclination angle); the potential difference and current intensity are stated to be constant when this arrangement is adopted. With multiple earth batteries currents of 2 volts and 2.5 amperes have been observed. The experiments have extended over two years. H. B.

J. E. SMITH.

Telegraph.

No. 35,571.

Patented June 10, 1862.

Fig. 1.

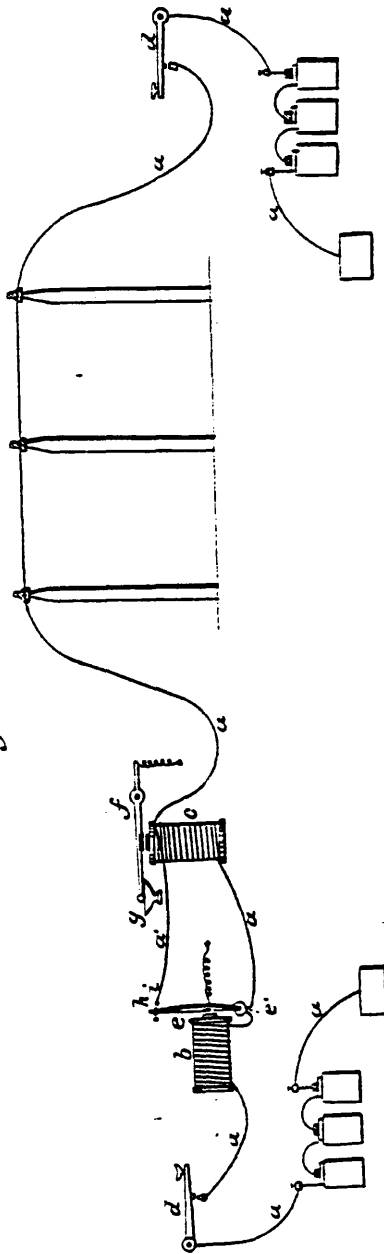
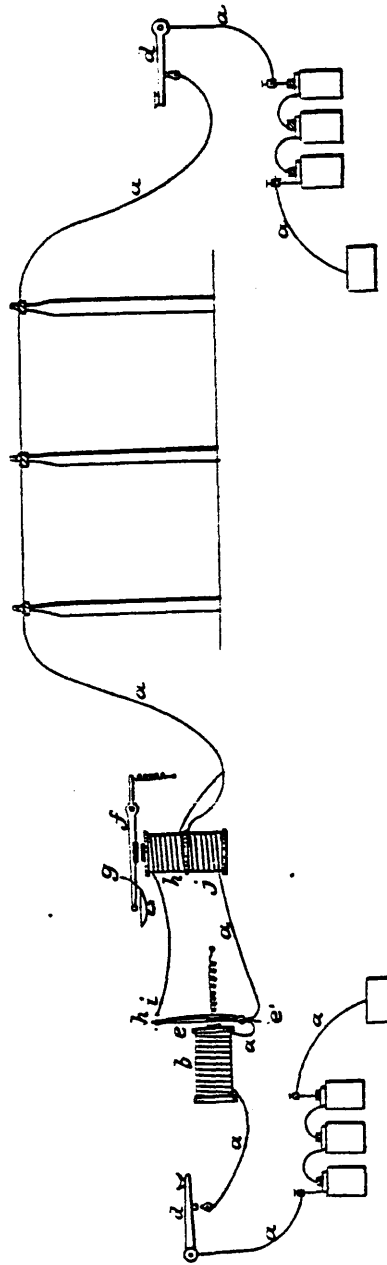


Fig. 2.



Witnesses.
John C. Smith
W. A. Whitcomb

Inventor:
J. E. Smith

A. PETER, Print-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN E. SMITH, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND C. T. & I. N. CHESTER.

IMPROVEMENT IN ELECTRO-MAGNETIC TELEGRAPHS.

Specification forming part of Letters Patent No. 35,571, dated June 10, 1862.

To all whom it may concern:

Be it known that I, JOHN E. SMITH, of the city and county of New York, in the State of New York, have invented certain new and useful Improvements in Electro-Magnetic Telegraphs; and I do hereby declare that the following is a full and correct description thereof, reference being had to the drawings annexed, making a part of this specification, and to the letters of reference thereon.

My said invention consists, chiefly, in an improved arrangement and combination of register or sounder magnets with receiving-magnets in a main telegraph-circuit, wherein the current of the main circuit used to actuate the register or sounder magnet is controlled and regulated by the receiving-magnet, the vibrating armature-lever of which is arranged to act as an automatic switch for the purpose of relieving the register or sounder magnets from the action of the escape or abnormal currents when the main circuit is opened. These escape-currents are familiarly known to all telegraphers as resulting from the return of battery-power to its source by reason of defective insulation, intensity of battery-power, and resistance of long conductors. I call them "abnormal," in contradistinction to the normal current which would result from the perfect and continuous passage of the battery-power from one end of the line to the other, which equalizes electro-magnetic power, and makes telegraphing easy and reliable at all times. The register or sounder magnets are relieved by establishing an additional metal connection from the wire of the receiving-magnet to the main line, through the armature-lever of the receiving-magnet, either directly to the metal conductor, avoiding the sounder-magnet, or to the main conductor through one of two equal helices surrounding the sounder-magnet, and in a direction opposite and antagonistic to the direction of the current passing through the other equal helix, which is always included in the main circuit, thus either diverting the abnormal currents from the sounder-magnet or passing them through the helices of the sounder-magnet in such manner as to neutralize or destroy their effect upon the magnet, thereby securing the mechanical force and action of a fully-discharged electro-magnet.

In order more particularly to describe my said invention, I will refer to the annexed drawings, wherein—

Figure 1 represents the parts combined and arranged so as to divert the abnormal currents from the sounder-magnets by the action of the armature-lever of the receiving-magnet; and Fig. 2 represents the parts arranged so as to divide and neutralize the abnormal currents, as before mentioned.

Letter *a* represents the main telegraph-conductor, embracing and including the helices of the receiving-magnet *b* and the register or sounder magnet *c*. *d* represents transmitting-keys.

Letter *e* represents the vibrating armature of the receiving-magnet, provided with reacting spring and other usual appendages; letter *f*, vibrating armature of sounder-magnet, with a cymbal, *g*, for which may be substituted a pen-lever of a recording-instrument, or any device for indicating or recording telegraph-signals or setting in action machinery for indicating or recording telegraph-signals. The main conductor *a* connects with the vibrating armature-lever *e* of the receiving-magnet at its fulcrum *e'*.

a' is a short conductor from a point near the end of the vibrating lever *e* to the main conductor *a*, Fig. 1, beyond and avoiding the sounder-magnet. When the armature-lever falls back by the action of its spring upon the opening of the main circuit in telegraphing, the end of the lever establishes a connection with the short conductor *a'* at the platina points *h i*, thus affording a short direct passage for the abnormal current through the vibrating lever of the receiving-magnet and short connection *a'* to the main line, avoiding entirely the helices of the sounder-magnet, and therefore relieving them entirely from the action of abnormal currents when the main circuit is open.

In Fig. 2, the sounder-magnet is represented as constructed with two equal helices, *j* and *k*, wound in opposite directions, the main conductor *a* running through the lower helix, *j*, and the conductor *a'*, instead of passing directly from the armature-lever of the receiving-magnet to the main conductor, avoiding the sounder-magnet, as in Fig. 1, connects with and includes the helix *k*, passing from it to

the main conductor. The helices *j* and *k* being wound in opposite directions and of equal length, the current divides and passes equally through both in opposite directions, when the lever of the receiving-magnet falls back and brings the two platina points *h i* in contact upon the opening of the main circuit.

The connecting-points *h i* should be provided with suitable adjustments, such as are used in such instruments for determining the length of vibration of the lever, which, in this case may be confined to the shortest length consistent with the practical separation of the platina points *h i*, because no deflagrating spark ever passes as in the operation of short circuits in which local batteries are included.

Instead of using the magnet which I have termed the "sounder" or "register" magnet to actuate instruments for recording or indicating telegraphic signs or signals, or for setting in action mechanism for printing, recording, or indicating telegraph signs or signals, it may be used to open and close short office-circuits in which a battery and register or sounder magnet is included in the same manner as such short circuits are now operated in connection with receiving-magnets not protected from the effect of abnormal currents when the main circuit is open; but, as sufficient power is obtained by the combination of

sounder and receiving magnets in the main circuit hereinbefore described to work sounders or pen-registers with certainty and uniformity, I do not recommend the use of the additional short local-battery circuit just mentioned, because it involves needless trouble and expense, but only mention it to secure myself from attempt to appropriate my invention by disconnecting the second magnet from the direct connection with the sounder or register, and using it to indirectly operate such instruments through office-battery local circuits, which they would operate in an improved manner owing to their being relieved entirely from abnormal currents when the main circuit is opened.

I claim—

The combination of electro-magnets in a main telegraph-circuit, substantially as hereinbefore described, whereby the vibrating armature-lever of the first or receiving magnet is made to discharge or neutralize the escape or abnormal currents flowing through the second or working magnets when the main circuit is opened in the operation of telegraphing, substantially as set forth.

Dated New York, April 15, 1862.

JOHN E. SMITH.

Witnesses:

JOHN DAVIDSON,

WM. A. WHITBECK.

INTRODUCTION:

The experimental procedure presented herein is a guideline for drawing negative charges from a grounded source of metal to an attraction field which conducts the flow to an application circuit. The potential of this source is on the order of several thousand volts and the current, from a few milliamps up to one Amp! Depending on your area and grounded source upto 25 watts and more is possible with an optimum configuration. You can use this project to power appliances or charge batteries. Free yourself from the power company! Get Busy!

DISCLAIMER:

CAOROP Projects takes no responsibility in any independent workmanship of this project and cannot guarantee satisfactory output from individual, geographically random construction of said device.

LEGAL WAIVER:

The following experimental project ^{Must be kept} in a well ventilated area. This device can draw sudden concentrated bolts of energy such as lightning either directly or from ground especially in areas where such atmospheric or man made charges are concentrated. Exposure of this device to any form of nuclear radiation (e.g. X-rays) can also lead to disastrous results. Be forewarned! Please read this entire manual before attempting construction of the Reverse Potential Field Generator. CAOROP Projects takes no responsibility for any form of damage or injury resulting from irresponsible construction or supervision of this experimental device. Acceptance of these plans warrants this on your part.

On this note we wish you success in coming another step closer towards self sufficiency.

(Field Generator = F.G.)

WORK AREA:

You must consider the working area for the F.G. It can vary anywhere from approximately 1'X2'X3" to 4'X8'X?. This area should be unenclosed by metal walls, floor, or ceiling, be spacious, as dry as possible, and have access to a dry, grounded metallic structure (e.g. gas pipe) and access to a wet, grounded metallic structure

(e.g. cold water pipe) by means of a heavy electrical connection. This space must be well ventilated allowing no accumulation of "dead air". As you can imagine this will be a rectangular structure which can be laid flat or on its side, attached to heavy gauge wires at one end and an electrical load at the other.

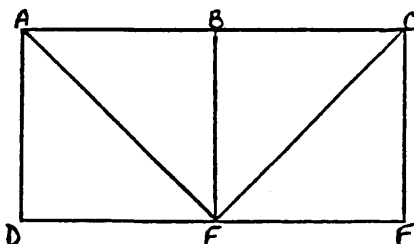
FIELD GENERATOR: MATERIALS

The Field Generator consists basically of alternating layers of light, organic material and ferromagnetic material (iron sheets are ideal). The $\frac{1}{2}$ " fibrous building board made by Celotex at your local hardware store serves this purpose best. (But if your area is especially humid you may also use $\frac{1}{2}$ " styrofoam sheets-found next to the building board.) You may find iron sheets at your local metal scrap yard, hobby shop, ironworks, or lab supply. If unobtainable, then use galvanized steel flashing or steel wool also found at the hardware store. Steelwool tends to be the least expensive of the three, yet almost as effective as iron. Buy the finest (#0000). It will be unrolled, kept fluffy, and applied with no overlapping (except for two layers or more at the centre of the F.G.). You will also be laying a trace of copper on the (in)organic layers for conduction. Bare or wrapped wires are OK, but a copper plate trace tends to increase the strength of the output. Copper plates can be found at the hobby shop or lab supply in small stock. If you can find copper strip in rolls, 1" wide or more, then please use it! Heavy gauge wires (i.e. battery cable size) will be connected to the F.G. from the wet and dry grounds. The copper trace will conduct from these wires to the application circuit through the F.G.

FIELD GENERATOR: DIMENSIONS

CAOROP researchers have found that cutting the F.G. to certain dimensions rather than at random will tend to increase field strength thus power output:

FIG. 1



$$AB=AD=BC=370\text{mm (14.58")}$$

$$AE=524\text{mm (20.62")}$$

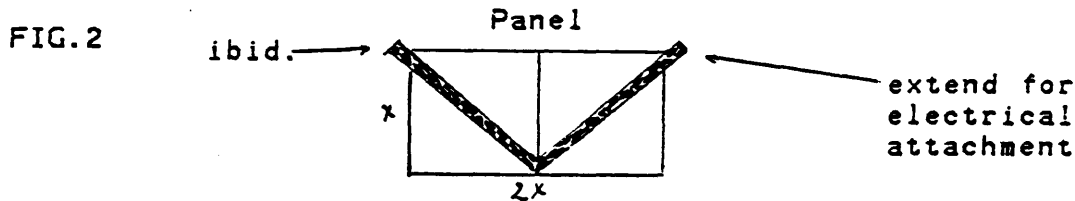
(AEC is copper trace)

You may change the size of the arrangement

proportionally to the dimensions given. Increasing the size will increase the influence and current strength. The copper trace along AEC can be a copperstrip as small as 1" wide, planted along these diagonals, will gain maximum influence from the Field Generator.

FIELD GENERATOR: CONSTRUCTION

After cutting the panels to proper size you will attach the copper strip along the diagonals:

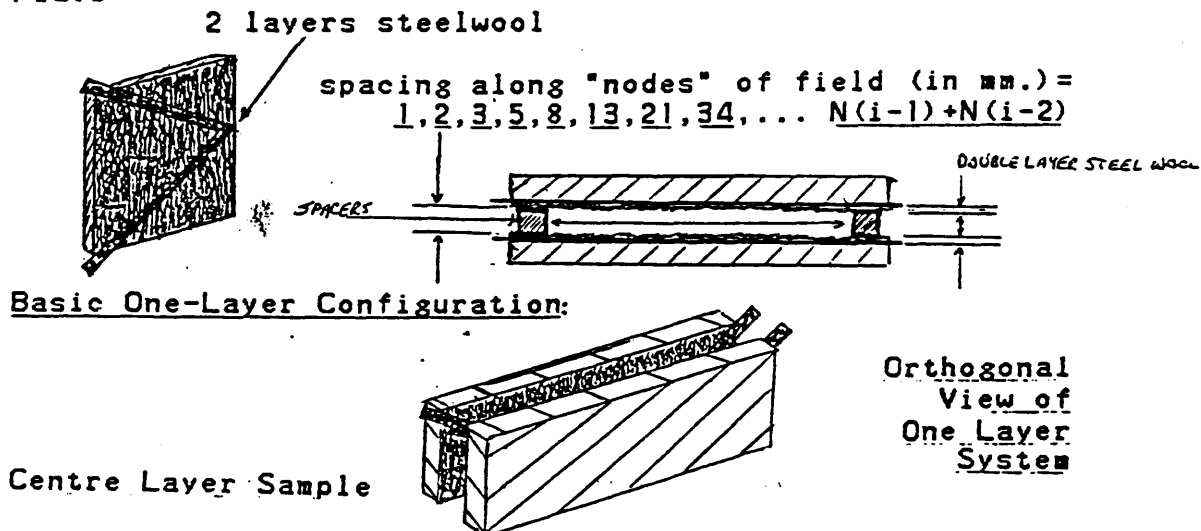


Doing this for more than the two centre panels is not recommended in areas close to power stations or subject to low discharges of atmospheric energy. If working with copper plates, you may overlap to achieve conduction.

Spray-on adhesive is OK, but the panel glue found in hardware stores is more dependable and less expensive. (A little goes a long way, so don't make a mess!) Panel glue can serve all the adhesive attachments in this project.

Although iron sheets give the best results in this system you may find them too cumbersome to deal with or difficult to locate. If not, adhere the iron in only one sheet layer per panel with panel glue. Apply steel wool (#0000) rolled out straight and uniform (no overlapping) with glue or/and long steel staples. Do not compress the steelwool (The exposed surface of steelwool helps to increase field strength.) You may also apply one layer of galvanized sheet steel before the steel wool, not after, to leave the wool fluffy. The copper trace must not touch the ferromagnetic material, so you may use a thin insulative material like plastic food wrap.

FIG.3



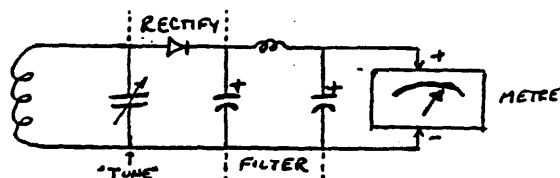
The attraction field produced is wavy, but predictable. The asymptotic nodes of energy occur at $N(i) = N(i-1) + N(i-2)$ as peaks of energy. This is simply the Fibonacci series where any number in the series equals the addition of the two numbers preceding it. Do the spacing in millimetres.

The spacing between the panels is made with something small, light, and non-conductive at each corner such as pine or building board scraps. The closest spacing will not necessarily yield the greatest field strength.

HOOK UP & TEST CIRCUIT:

The electrical components for the test circuit must be able to handle at least 5000 volts. Your local electronics surplus may carry these items inexpensively, but they are few in number:

FIG. 4

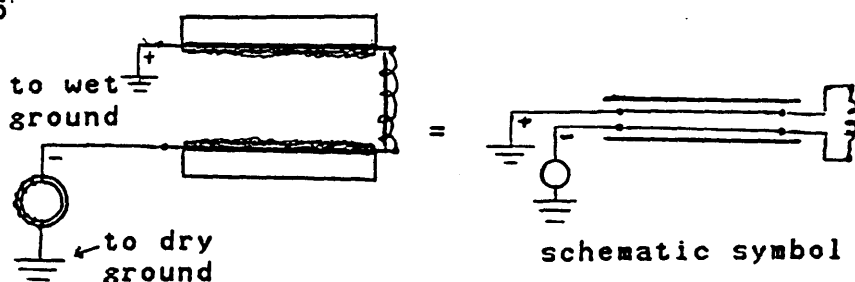


The tuning capacitor is a high voltage, air-plate capacitor of one farad or greater. It will be used for "tuning-in" the optimum charge frequency from your particular ground structure. You can put an electrolytic capacitor with matched value in its place. The diode is a zener and the inductor should be at least 5 henrys. The componentry should all be high power to handle at least 2 watts.

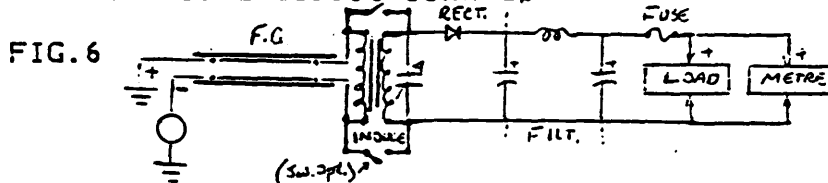
You may, of course, use lower power components if high power is not your objective (i.e. in the case of charging batteries)

The F.G. will need a choke coil at the dry ground. You must use a large coil here which is a heavy gauge wire wrapped 17 times or more around a ferromagnetic donut of at least 5" in diameter:

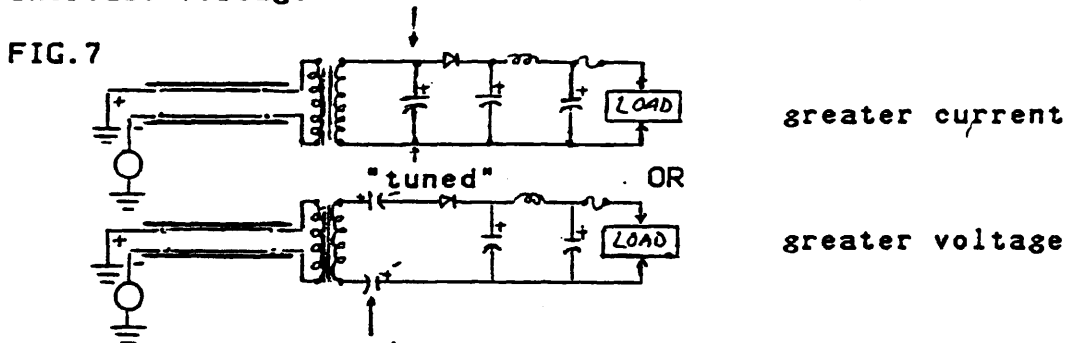
FIG. 5



The attached inductors will represent an inductive influence. In the case that the current is not strong enough to motivate satisfactory induction switches may be used for a direct link-up:



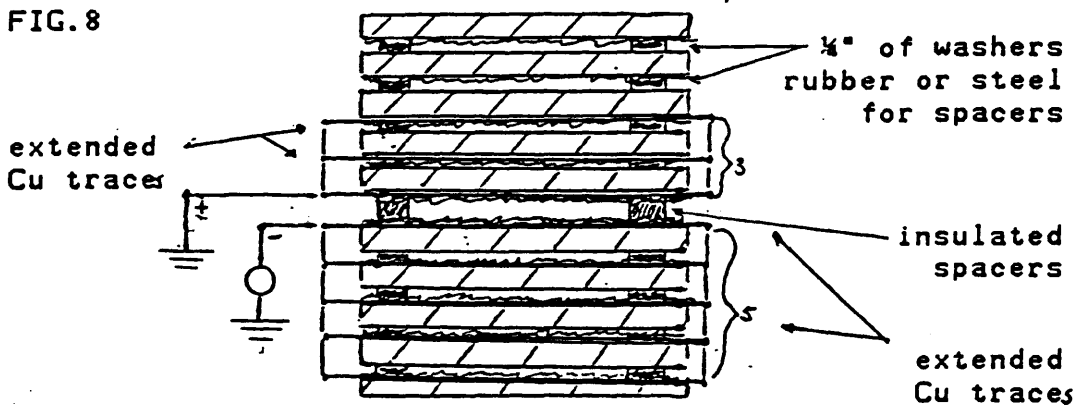
An inductive circuit is much safer from electrical hazard than a direct connection which should only be used if even the best field generator you make does not produce a promising output. The inductive connection can be a double antenna coil or a 1:1 transformer. Upon tuning in the best value you can replace the tuning capacitor with an electrolytic or two in series to increase voltage:



Either circuit is good for battery charging, but for not you may want to increase the field strength.

MULTIPLE LAYERED FIELD GENERATOR:

Multiple layers tend to increase field strength those power. Copper traces can be added to the other panels in a ratio according to the Fibonacci series for an optimum effect. Let us assume a five layer generator:



$$N(1) = 1, 2, \underline{3}, \underline{5}, 8, \dots$$

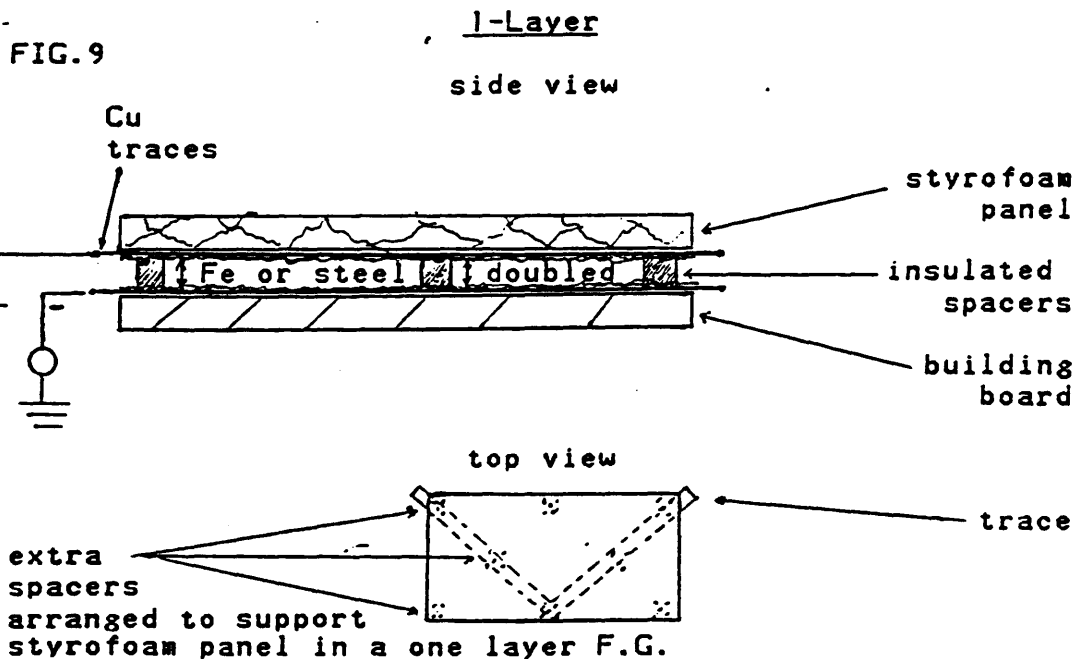
Only one trace for the upper and lower set of panels is required, but the above type of configuration allows the aforementioned minimal dimensions to achieve the same field strength as a single layer "draw" which is four times larger. (i.e. a 370mmX740mmX5 layer F.G. vs. a 1480mmX2960mmX1 layer F.G.)

When using multiple traces always install the lesser number in the panels leading to wet ground. Increase the number of layers in the F.G. according to the Fibonacci series for optimal field strength (i.e. 1,2,3,5,8,... etc.), so you can also plant the traces for the same effect (e.g. 5 Layers: 5 Cu traces to (-), 3 Cu traces to (+); 8 Layers: 8 Cu traces to (-), 5 Cu traces to (+); etc.)

Remember that field strength can also be increased by increasing the size of the panels in a one layer arrangement.

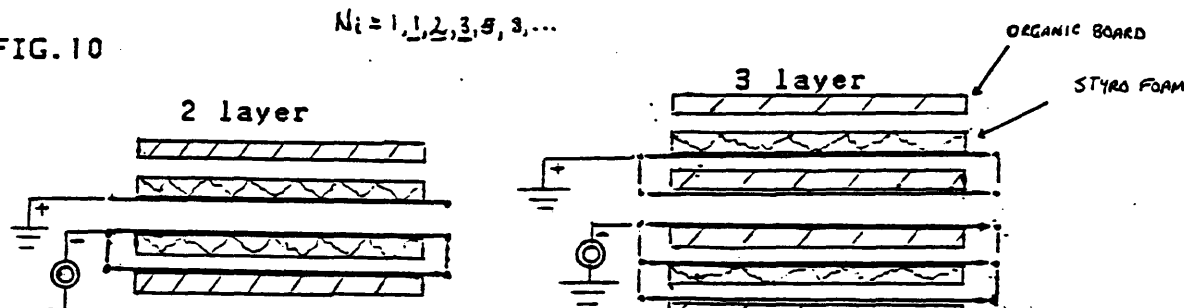
F.G. IN A HUMID ENVIRONMENT:

A humid atmosphere will dissipate the field effect and must be countered by using materials that build a "static" charge on their own. Styrofoam can be found as ½" thick sheets at the hardware store. Applied to a one layer system the foam should be the panel leading to wet ground(+) while keeping the organic panel leading to dry ground(-):



Panel glue should be used to adhere the ferromagnetic substance to the foam. Most other adhesives could melt the foam. Wooden dowels can be used as spacers, but use pine or any other light wood. In a multi-layered F.G. the foam and the organic board will be alternated. You can still use $\frac{1}{4}$ " steel washers or the equivalent to space the panels (you may also use rubber washers):

FIG. 10

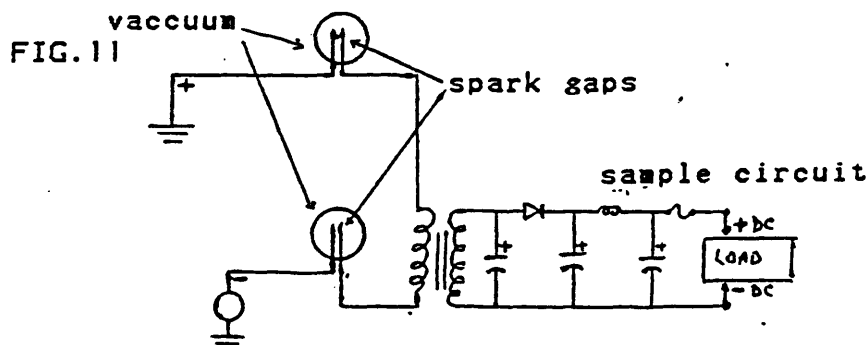


In a multi-layered F.G. the organic panels must always face outside. They should also be coated with a water repellent before assembly. The F.G. can also be protected from moisture by coating it with plastic food wrap such as Gladwrap or Saranwrap. These polypropylene sheets also help to accumulate "static".

THE VACCUUM EFFECT:

A high vaccuum also tends to accumulate the same energy as the panel accumulators described above. (For trivia buffs, an experiment had a simple vaccuum in a glass tube with a high voltage filament. The space within was found to glow blue in colour.)

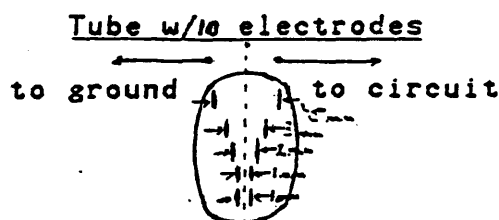
If you have ever done the plasma-globe project as found in Radio-Electronics, then you already have the necessary tools. If not, I refer you to the January '89 issue at your public library. The basic configuration is:



The field strength is proportional to the vaccuum and is also improved with an increase in the number of electrodes. Putting both positive and negative leads in

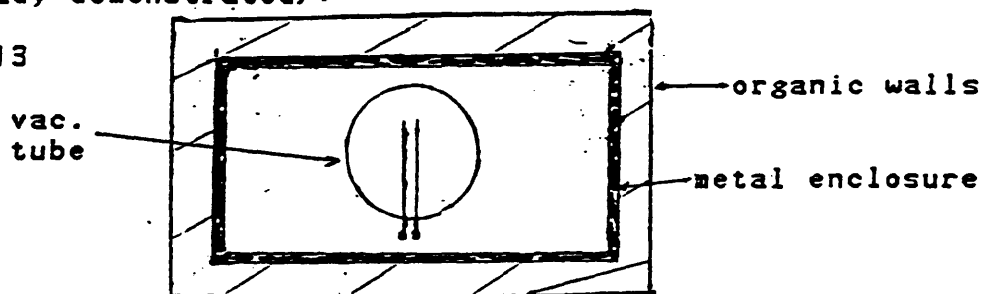
the same vacuum is like creating a short, so there must be a separate tube for each set. Multiple electrodes are spaced to act as spark gaps. Spacing the spark gap in each successive electrode according to the Fibonacci series, in millimetres-again- has a positive effect:

FIG. 12



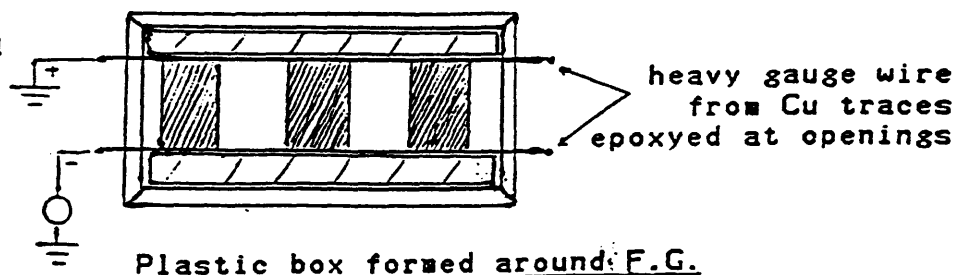
CAOROP researchers have yielded up to 3 watts with the TEN electrode-vacuum tube approach. But it may also be very difficult for personal construction. The tubes also take several weeks to accumulate enough charge on their own. If you want to shorten the accumulation time, you can put the tube in a F.G. box (six walls instead of the two already demonstrated):

FIG. 13



Charging the tube a F.G. box of three layers or more shortens the accumulation time to one week and less. The most difficult project you might undertake is placing the panel F.G. within a vacuum. This has been done. By surrounding the F.G. with $\frac{1}{8}$ " or thicker plastic sheets then epoxy welding them at the seams you can form an enclosure:

FIG. 14



You will have to add extra spacers to support the panels from collapse during vacuum. Less than one inch of Hg can be pulled before a "short" is created. (This is OK since only a certain amount of vacuum can be pulled before this type of system breaks down and springs a leak.)

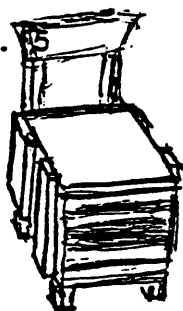
The layered F.G. in a vacuum has been found to be almost double in strength compared to a regular field from an accumulator a regular atm. pressure (almost 50% gain in power).

MISCELLANEOUS CONFIGURATIONS:

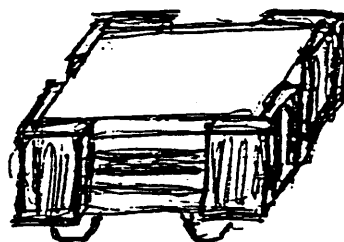
Ultimately, your own F.G. will vary between a tall, compact stack or a thin, long pair of panels. A field generator will work in any position (i.e. as long as it holds together!). Any wood or plastic brace will do the job-NO METAL. Any high tensile tape will also work-EXCEPT METAL. REMEMBER, NO METAL SHOULD ENCLOSE THE F.G. This would tend to nullify the field.

In order to save space you may choose to disguise your F.G. as a piece of furniture or some other part of your living arrangement. (There is no danger of surge hazard with the grounds hooked in safely and securely.) For example, in the case of a compact stack of panels:

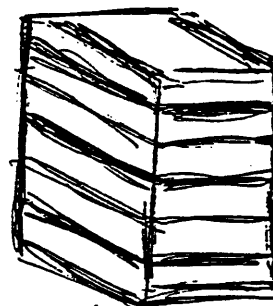
FIG. 15



chair



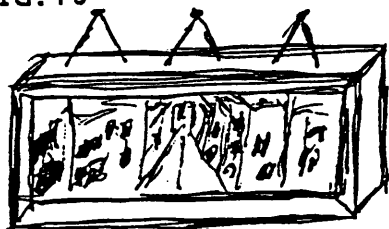
coffee table
or imitation
plant stand
(no H₂O)



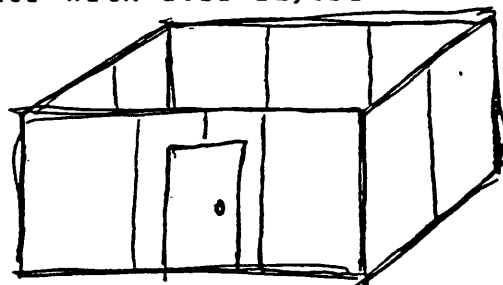
decorative
pillar
(more than
one stack)

As for a F.G. which is longer & wider with less layers:

FIG. 16



MURAL
(Bldg. board has a porous white side-perfect for oil or watercolour painting!)



WALLS FOR ROOMS
(The original purpose for the bldg. board-now vastly improved)

There are many ways to conceal heavy gauge wires as the people in the electrical dept. of your local hardware store can show you. Only the matter of your application circuit is left to conceal. You may even have several F.G.'s leading to one power circuit, but each system must have its own inductive connection.

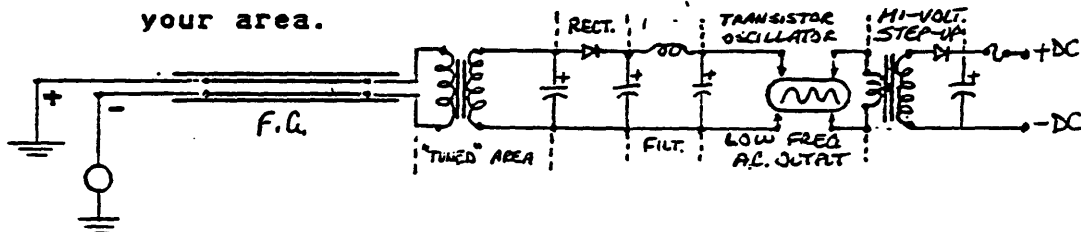
APPLYING ANOTHER ENERGY FIELD:

After some experimenting you may find that the output is greater the closer you are to the device, either layered or vacuum tubed. Other living bodies such as small animals and plants also affect field strength in the same way when brought closer to the F.G.

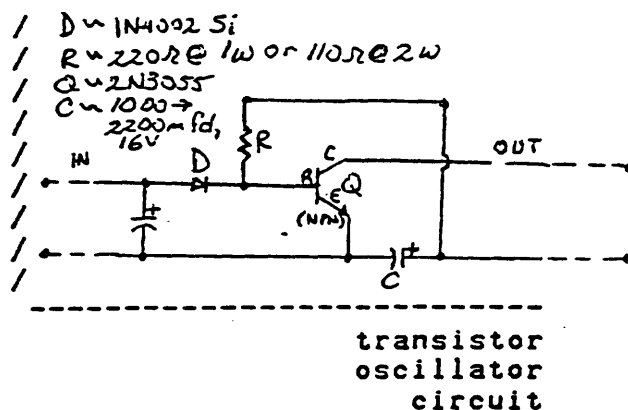
A voltage regulator can control any overvoltage, but this phenomenon can also be a blessing. A voltage controlled switch in the circuit can turn on lights when you enter a room with (a) properly located field generator(s) or operate other items.

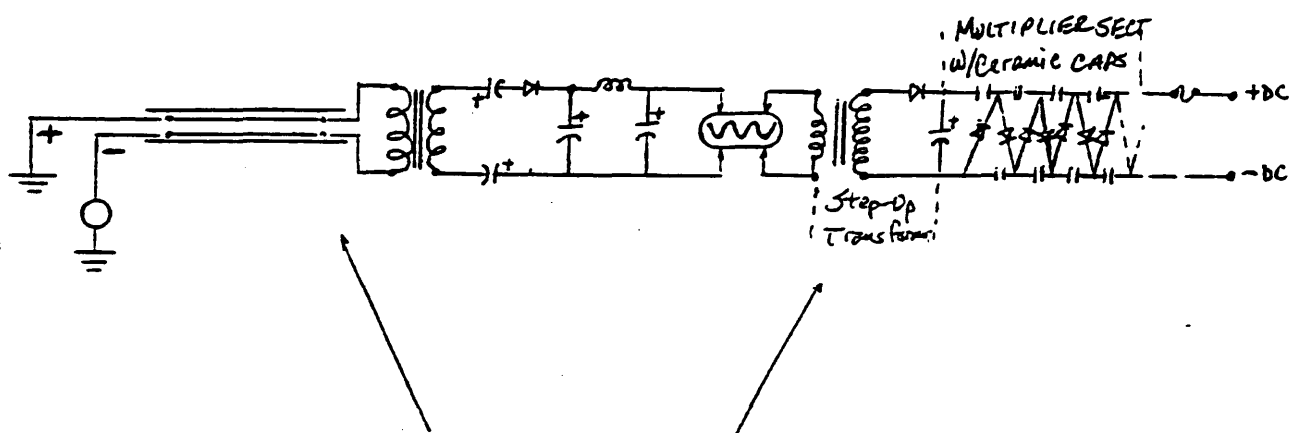
APPLICATION CIRCUITS:

Parts, kits, and more should be found at your local electronic hobby shop or surplus for basic control circuits such as voltage controlled regulator and inverters. The following schematics are only a guideline. For concise information on dealing with high voltage, low current power sources look in your public library or electronics hobby store. Only inductive circuits are recommended unless the output is poor in your area.



For short pulses of High Energy D.C.





For High Power Applications

REVISIONS:

1. There must be NO electrical short between wet ground (+) and dry ground (-) or the system will not work. (e.g. your water heater may have an existing short between gas and water pipes, mainly the heater jacket itself! This can be rectified with a plastic adapter at the gas main.)
2. An iron pipe leading to moving water is THE IDEAL wet ground. (e.g. commercial water well systems use iron pipes which lead to constantly moving aquifers.)
3. Using any aerial type of network as dry ground (e.g. antenna) may cause the current to reverse leading to electrical hazard.
4. A gas pipe is preferable in this project, but you can still experiment with other metallic structures mounted in dry ground.
5. If iron pipe leading to a source of moving water is not feasible in your case, try the hot water outlet at your water heater which tends to perform a little better at "sucking" negative charge. (Better than the cold water inlet.)
6. Try the hook-up w/o a F.G.!

SECTION
3

REGIONAL
LINKAGE



VRIL THREADWAYS IN THE GROUND FORM THE NATURAL TRANSLINKAGES OF CONSCIOUSNESS
AND OF LIFE GENERATING POWER IN THE REGIONS OF EARTH.

THESE ARE THE CAUSEWAYS OF LIFE...THE ROOT AND SOURCEWAYS OF OUR BEING.

IN THESE ARE FOUND THE NEW TECHNOLOGIES...THE ANCIENT REVELATIONS
WHICH APPERTAIN TO AWARENESS, BILOCATION, DISTANT VISION, EMPATHIC COMMUNICATIONS,
AND UNLIMITED EXPANSIONS OF BEING...AS SURRENDER WITH VRIL
IS MADE MORE COMPLETE.



ÆTHERFORCE



REGIONS OF GROUND ARE INDEPENDENT AND INTER-RELATED VIA VRIL THREADWAYS.

WE KNOW OF THESE NATURAL BOUNDARIES THROUGH MOOD SHIFTS WHICH WE INNATELY SENSE
WHILE CROSSING THEM...

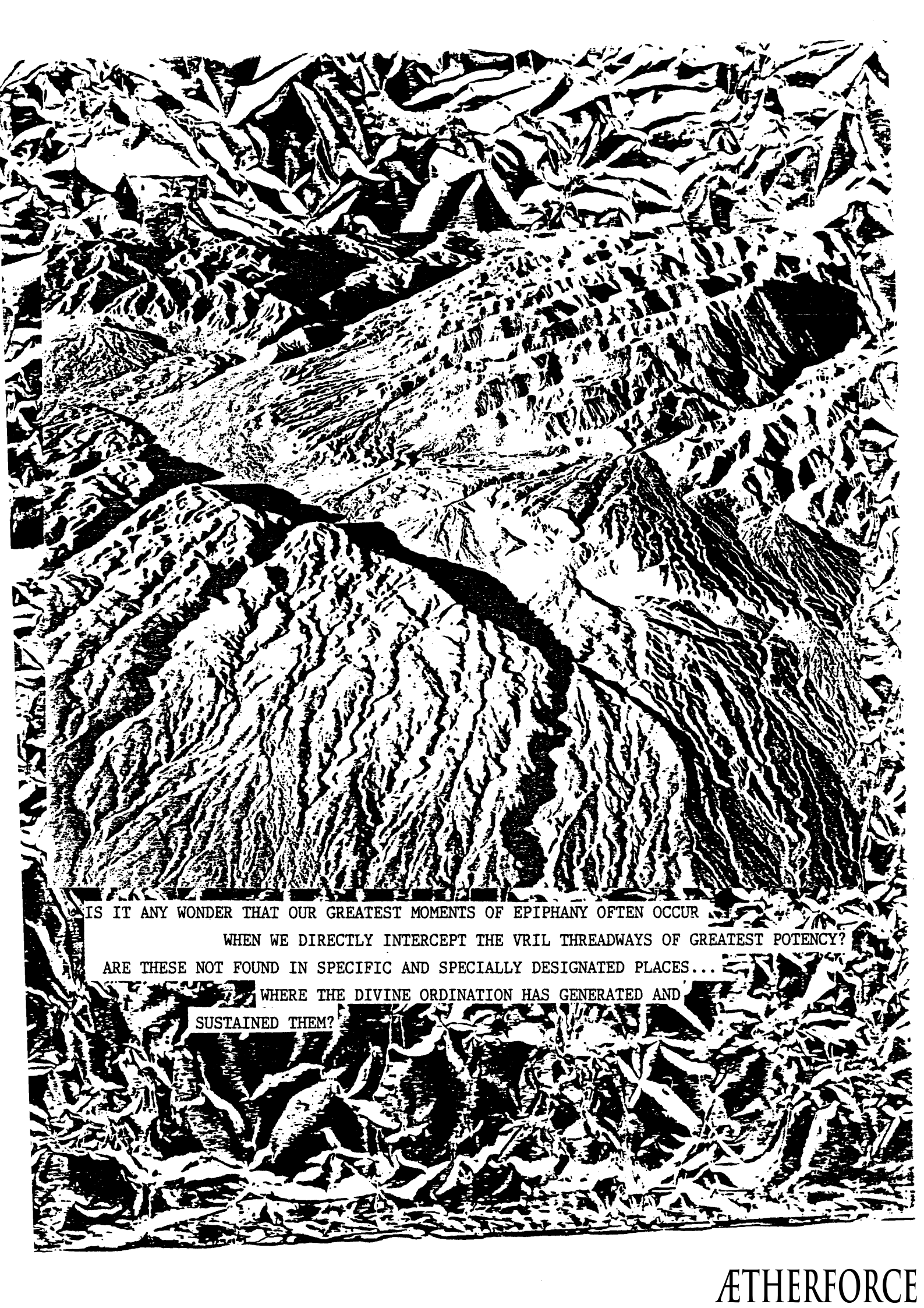
EACH REGION IS COMPOSED: A TONE, STRAIN-STATE, AND SENSE.

REGIONS ARE VIVIFIED...GENERATED AND SUSTAINED BY VRIL.

VRIL IS THE CENTRAL CONNECTIVE THROUGHOUT EACH REGION.

DIVERSITY OF REGION IS DELIGHTFUL AND VRIL IS THE CONNECTIVE
THROUGH WHICH WE MAY EXPERIENCE BILOCATIONS AND DISTANT VISIONS
OF WIDELY SEPARATED REGIONS.

ÆTHERFORCE



IS IT ANY WONDER THAT OUR GREATEST MOMENTS OF EPIPHANY OFTEN OCCUR
WHEN WE DIRECTLY INTERCEPT THE VRIL THREADWAYS OF GREATEST POTENCY?
ARE THESE NOT FOUND IN SPECIFIC AND SPECIALLY DESIGNATED PLACES...
WHERE THE DIVINE ORDINATION HAS GENERATED AND
SUSTAINED THEM?

ÆTHERFORCE



RILLES, RIDGES, RIFTS, FAULTS, AND THRUSTLINES OF ROCK...

MANUFACTURED MATERIALS OF VRIL THREADWAYS.

IN THESE NOTIONS WE FIND THE RE-EMERGENCE OF

ANCIENT VIEWS CONCERNING THE GENERATION OF MINERALS AND METALS...

VRIL GENESIS OF LODES AND PLACERS.

ÆTHERFORCE

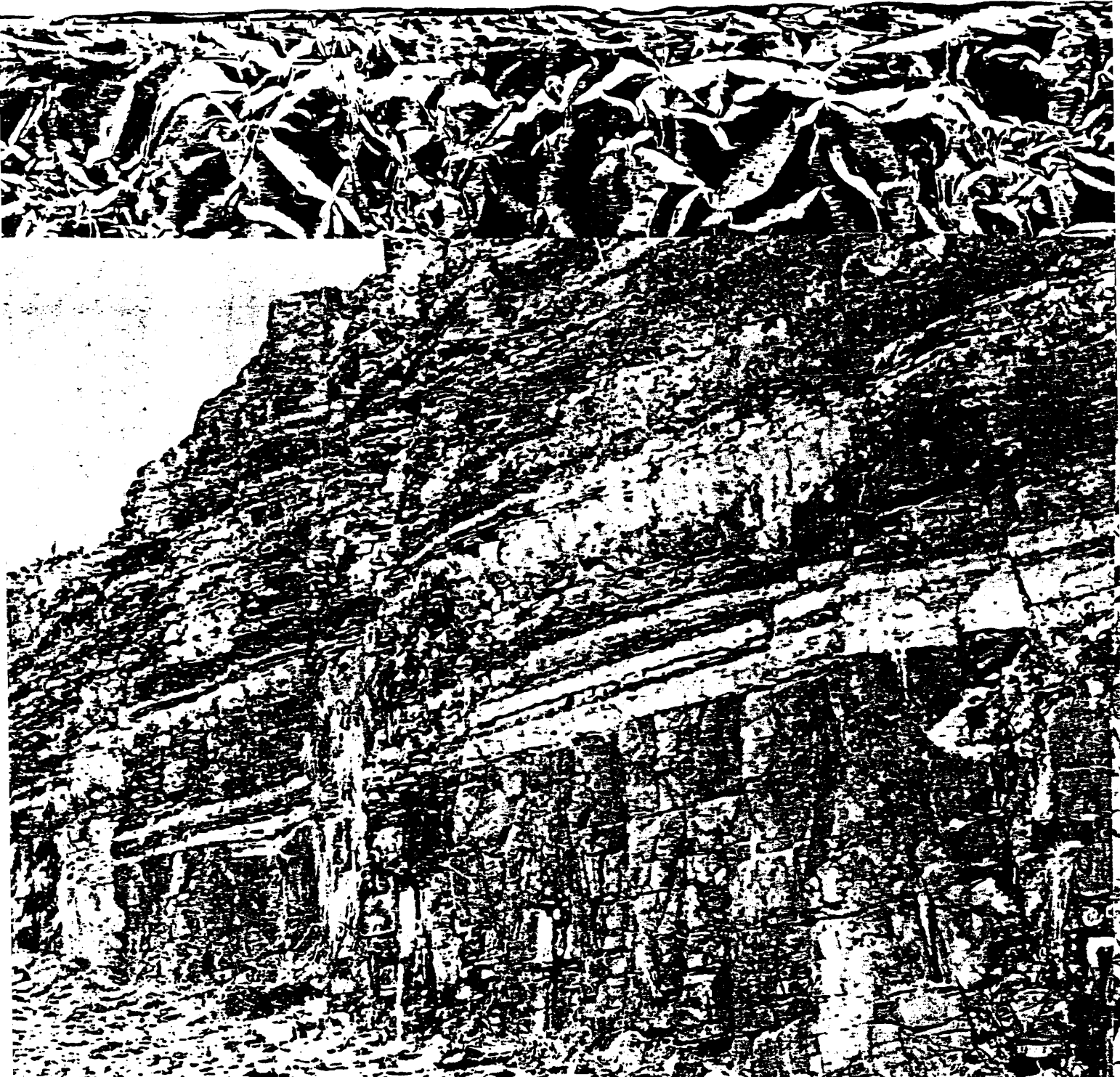
WAVERING VRIL THREADWAYS...WAVERING ROCK RIDGEWAYS
VIBRANT...ALIVE...AND TRANSMUTING



THE GENERATION OF MATTER AND SPECIFIC METALLIC LODES DIRECTLY FROM VRIL
CANNOT BE MORE EVIDENT THAN IN THESE PHOTOGRAPHS OF
OF MOUNTAINOUS TERRAIN.

FOLDING DOES NOT ACCOUNT FOR THE INTENSITY OF DETAIL
AND CONTINUED VRIL CONDUCTIVITY OF THE MASSIVES.

THE CONTINUED TRANSMUTATION OF THESE ROCK MATERIALS EVIDENCES
THE CONTINUED (UNMEASURED) PERMEATIONS OF VRIL.



SUCH SITES REVEAL THE VRIL PRESENCE AND ITS POWER TO CONTINUALLY COMMUNICATE VIBRANCE

AND GENERATIVE SUSTENANCE...THE GROUND MATTER IS ALIVE...

AS VRIL WAVERS SO WAVERS THE MATTER.

AS VRIL TRANSMUTES...SO TRANSMUTES THE GROUND.

THE MATERIALS ARE THE DIFFRACTIONS OF VRIL...THEY ARE DENSIFIED VRIL THREADWAYS

AND REVEAL THE ENDLESS QUALITIES

OF VRIL ITSELF.

ETHERFORCE



VRIL FRACTURES AND DIVIDES MATTER WHEN MATTER BECOMES (OR REMAINS)
TOO INERTIFIED...AGENCIES OF CONTROL MAINTAIN THE DISSOLUTION OF INERTIA
SO THAT VRIL MAY BE CONTINUALLY EXPERIENCED
IN ITS PURE EXPRESSION.

VRIL PERMEATES THE MATTER AND REMAINS THE SINGLE CONNECTIVE WITH WHICH WE MAY
MAINTAIN VITAL CONTACT...VRIL IS CONSCIOUSNESS AND THE
COMMUNICATIONS LINE OF CONSCIOUSNESS TO US.
THE GROUND IS THE STRONG TRANSDUCTIVE MEDIUM
OF VRIL.

TRANSACTIONS OF CONSCIOUSNESS NECESSARILY INVOLVE THE GROUND DIRECTLY.



VRIL IN THE GROUND MAY BE POWERFULLY FELT THROUGH DIRECT CONTACT WITH THE GROUND.

METAL POLES DRIVEN DEEPLY INTO THE ROCK OR SOIL

BRING VRIL DIRECTLY INTO THE BODY

WHEN GRIPPED.



DISSIMILAR METALS HAVE HISTORICALLY BEEN CITED AS THE VERY SOURCE OF
OF SPECIAL POTENTIALS...

THE "THRILL" IS THE VRIL...

THRILLING SENSATIONS FELT THROUGHOUT THE BODY ARE NOT ELECTRICAL
AND ARE FELT THROUGH MONOPOLAR CONTACTS.

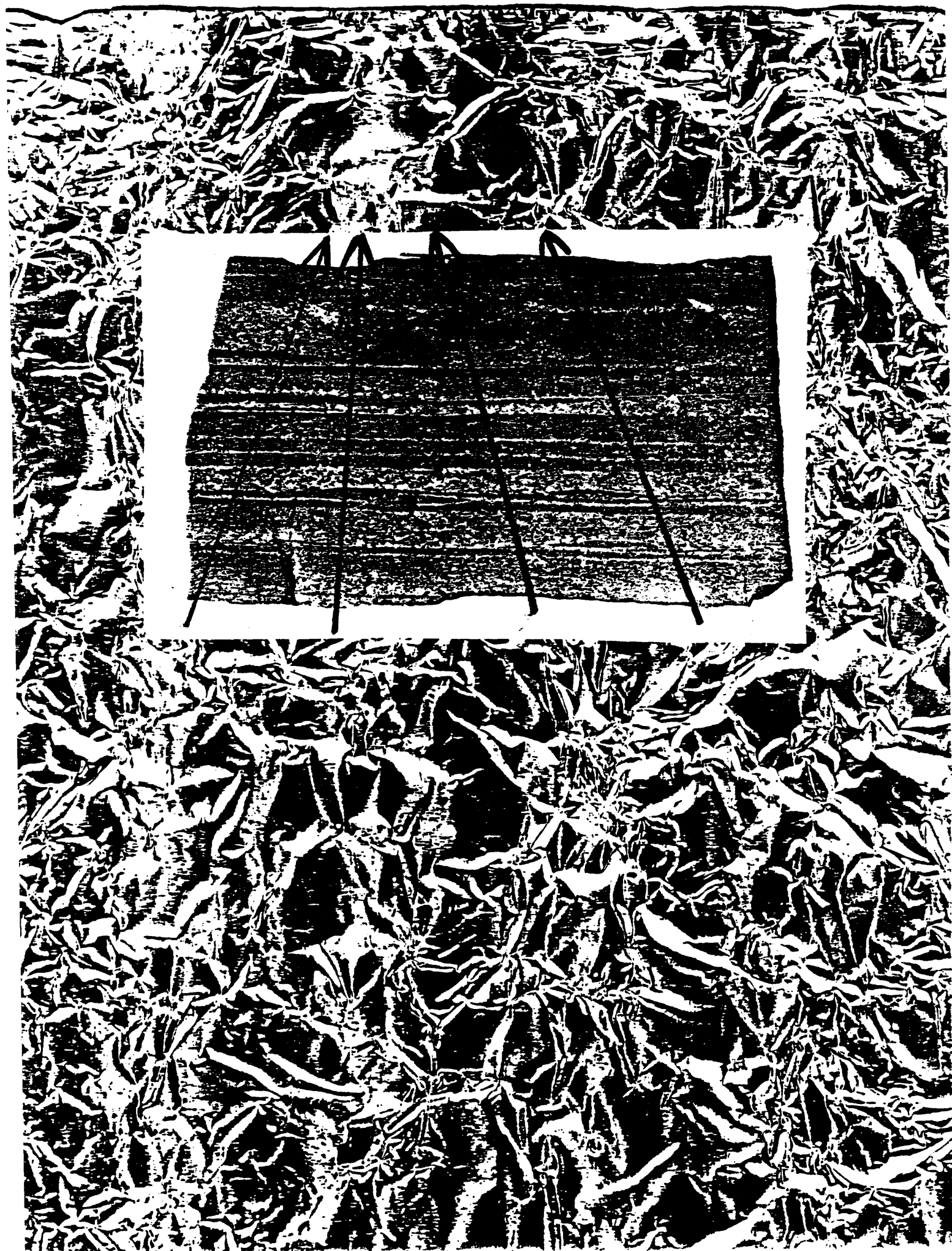
COPPER RODS PRODUCE THE WHITE RAY COMPONENT OF VRIL...COLD AND VIBRANT
AN ENERGY OF RELEASE AND JOY



EVIDENCES THAT VRIL THREADWAYS HAVE TRANSMUTED AND WAVERED THROUGHOUT TIME
IS DISCERNED WHEN EXAMINING MATERIAL SUCH AS THIS...

ONE SEES THAT VRIL NO LONGER
PASSES THROUGH THE MATERIAL WAVERS

...BUT RATHER ACROSS THEM



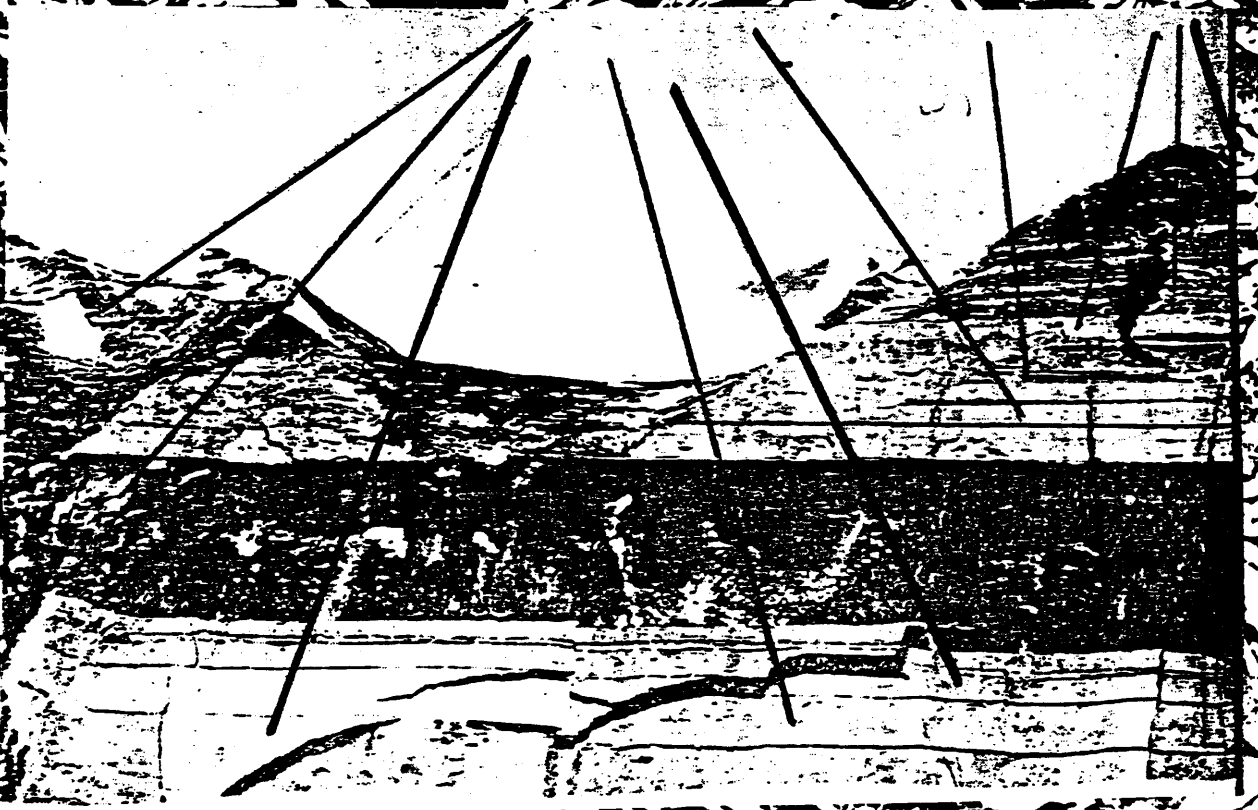
ÆTHERFORCE



THIS SAMPLE HAS MAINTAINED ITS VRIL AXIS VERY WELL...

RECRYSTALLIZING AND DENSIFYING ALONG ITS OLDER VRIL THREADWAYS

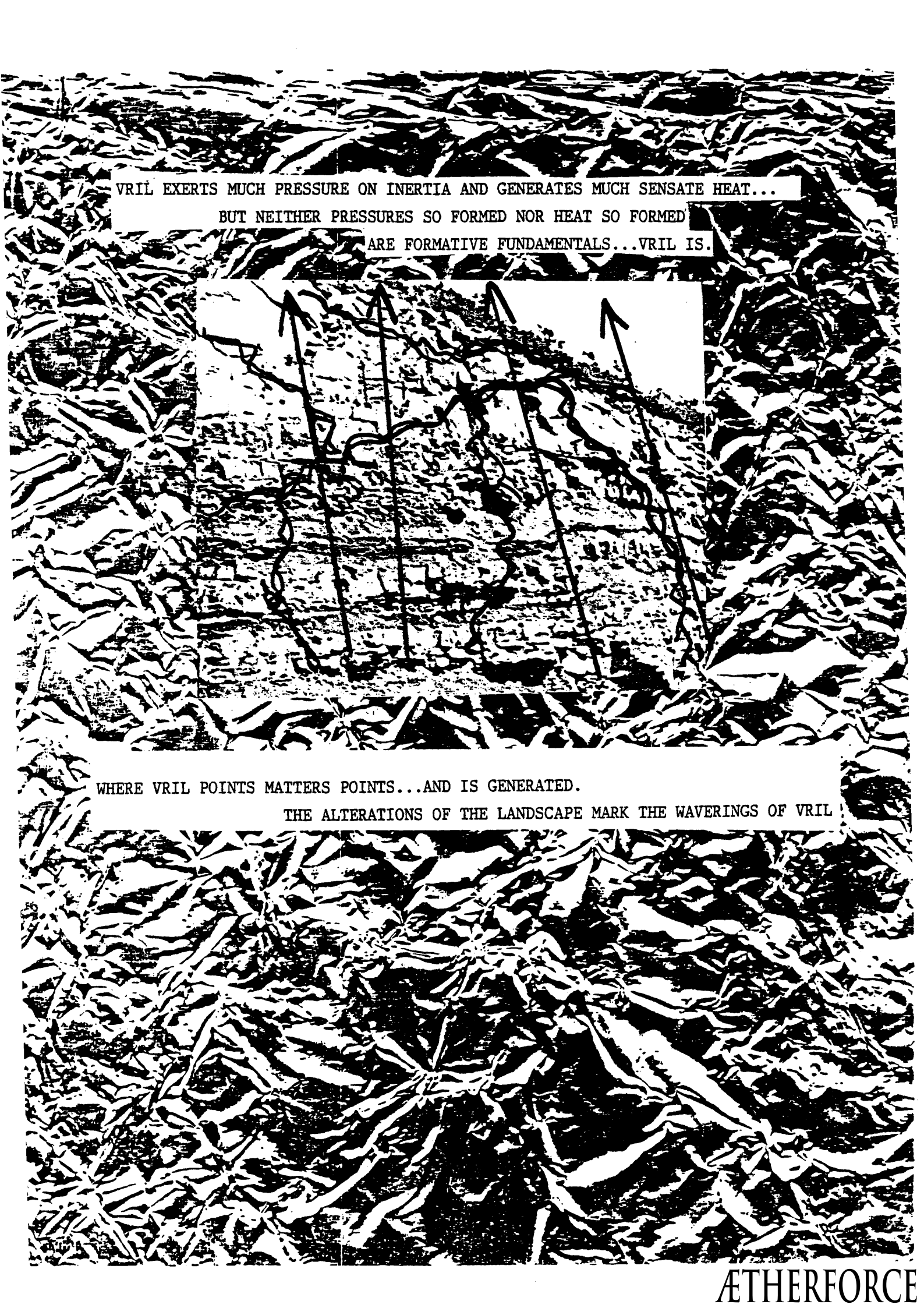
ÆTHERFORCE



UPTHRUSTINGS THE DIRECT RESULT OF VRIL PASSAGE...

THE FORMATIVE RAYS GENERATE VRIL ALONG AXES OF POWER.

ÆTHERFORCE



VRIL EXERTS MUCH PRESSURE ON INERTIA AND GENERATES MUCH SENSATE HEAT...

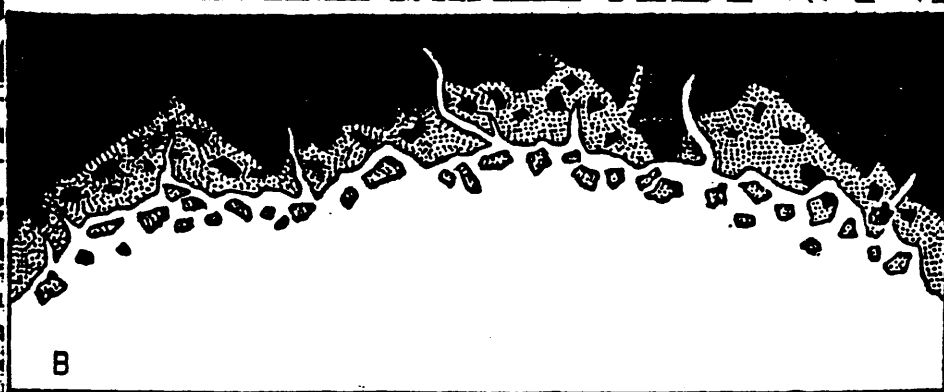
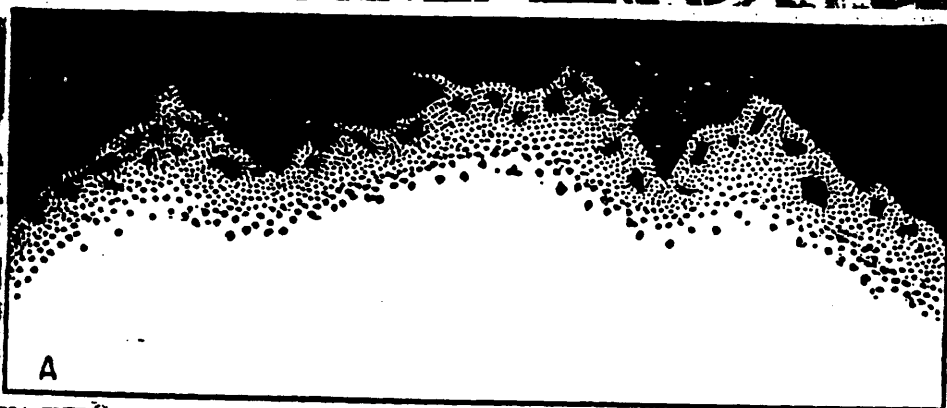
BUT NEITHER PRESSURES SO FORMED NOR HEAT SO FORMED

ARE FORMATIVE FUNDAMENTALS...VRIL IS.

WHERE VRIL POINTS MATTERS POINTS...AND IS GENERATED.

THE ALTERATIONS OF THE LANDSCAPE MARK THE WAVERINGS OF VRIL

ÆTHERFORCE



IT IS HERE THAT WE MAY LOCATE CERTAIN DEPOSITS OF METALS AND MINERALS...

YET THERE ARE PLACES DEEPER WITHIN THE GROUND WHERE VRIL GENERATES
MATERIAL LODES OF SURPASSING PURITY AND GENDER.

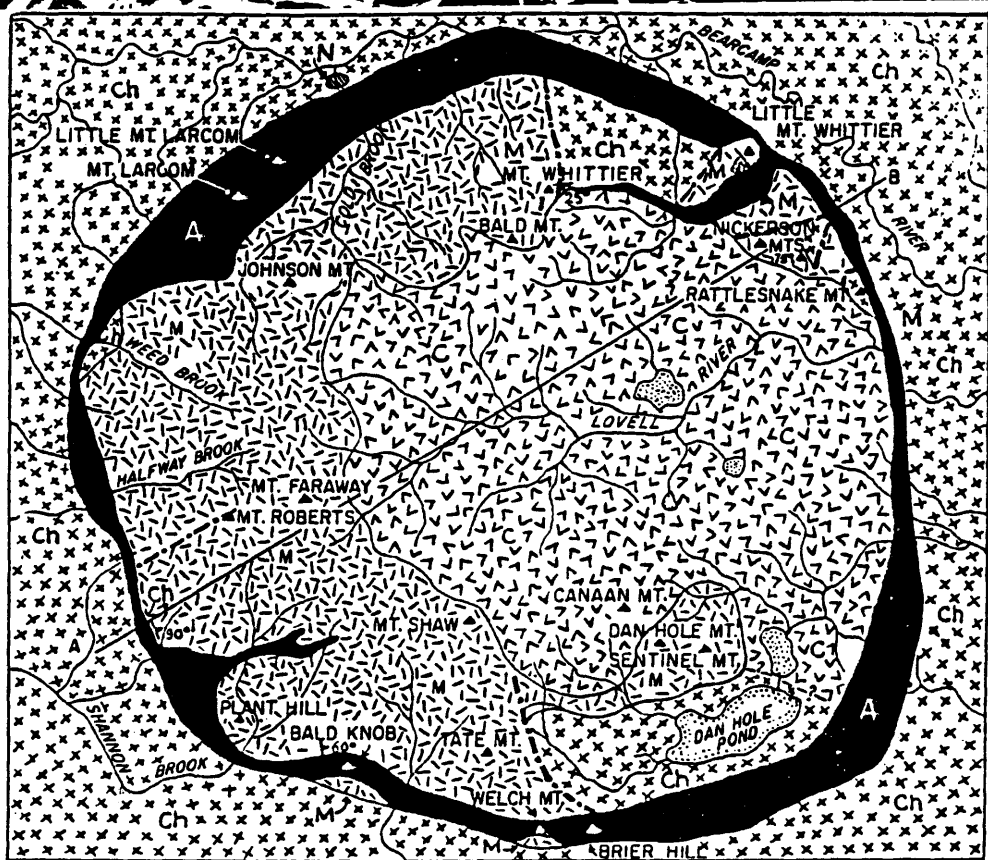
INDEED THERE ARE VRIL CAUSEWAYS WHEREIN METALS ARE MANUFACTURED IN WHITE-BLACK RAY REACTIONS



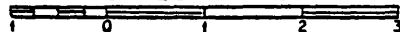
VRIL AND METAL LODES

THE GENERATION OF THE METALS
THROUGH VRILLIC REACTIONS

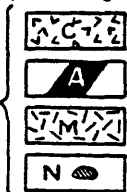
"I have thus, my dear sir, ventured to encroach upon your time, with some crude ideas, that may serve to elicit some useful experiments in the hands of others. When we consider what wonderful results have arisen from the first trifling experiments of the junction of a small piece of silver and zinc in so short a period, what may not be expected from the further extension of galvanic electricity: I have no doubt of its being the chiefest agent, in the hands of nature, of the mighty changes that occur around us. If the metals are compound bodies, which I doubt not, will not this active principle combine those constituent in numerous places, so as to explain their metallic formation? and if such constituents are in themselves aeriform, may not galvanism reasonably tend to explain the existence of metals in situations to which their specific gravities certainly do not entitle us to look for them?"



SCALE IN MILES



DEVONIAN?



CONWAY BIOTITE GRANITE

ALBANY PORPHYRITIC NORDMARKITE

MOAT VOLCANICS

VOLCANIC NECK

PRE-CAMBRIAN?



CHATHAM GRANITE

FAULTS

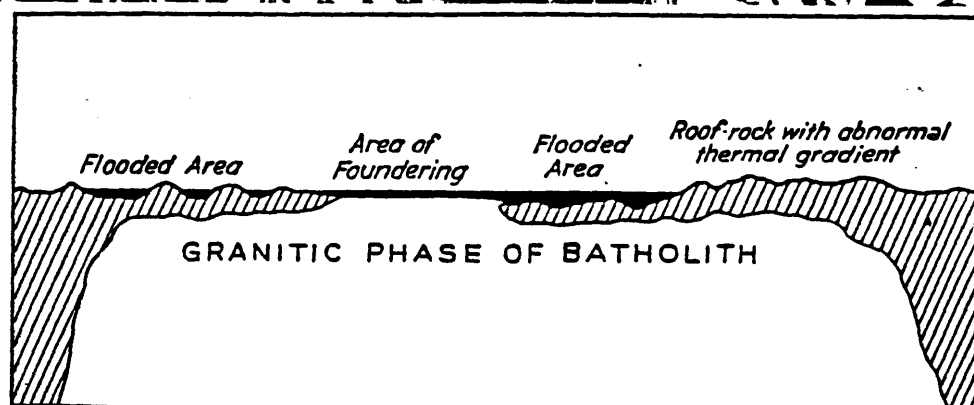
BATHOLITHS...PEGMATITES...DOMES...ALL EXPRESSIONS OF VRIL

GENERATED AND SUSTAINED BY VRIL THREADWAYS

AND CRYSTALLIZED THROUGH INTENSIFICATIONS
OF PASSAGE.

ROCK AND METAL BECOME GLASSY TO THE VRIL VISION...

TRANSDUCING VRIL THREADS WITH GREAT EASE.

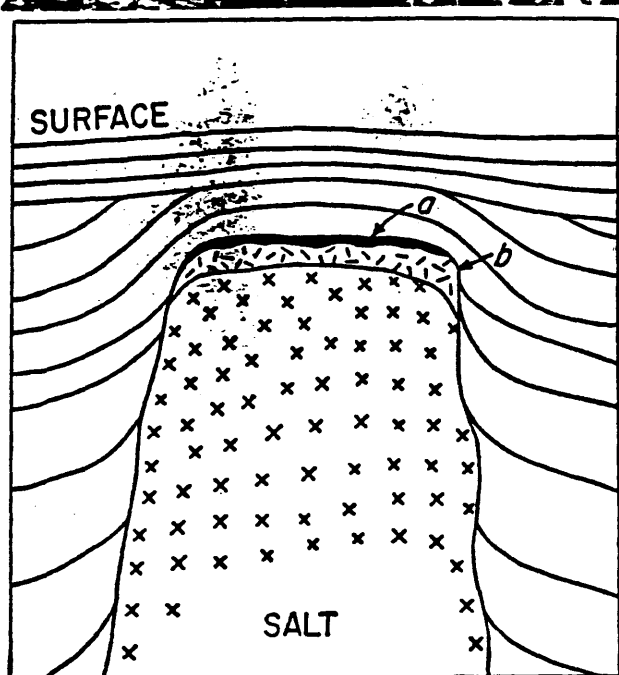


THESE ARE THE CONNECTIVES...THE NATURAL CAUSEWAYS THROUGH WHICH

GENERATIVE VRIL PASSAGES MAINTAIN LIVING CONDITIONS.

IT IS THROUGH THE VRIL PASSAGEWAYS OF THE GROUND THAT MEANINGS AND MESSAGES
HAVE THEIR EXPRESSION.

WITHOUT THESE PASSAGEWAYS AND THREADWAYS IT IS IMPOSSIBLE
FOR COMMUNICATIONS TO OCCUR IN MEANINGFUL
TRANSACTIONS.



THE CRYSTALLINE COMPONENTS OF THE VRIL CAUSEWAYS UNDERGROUND

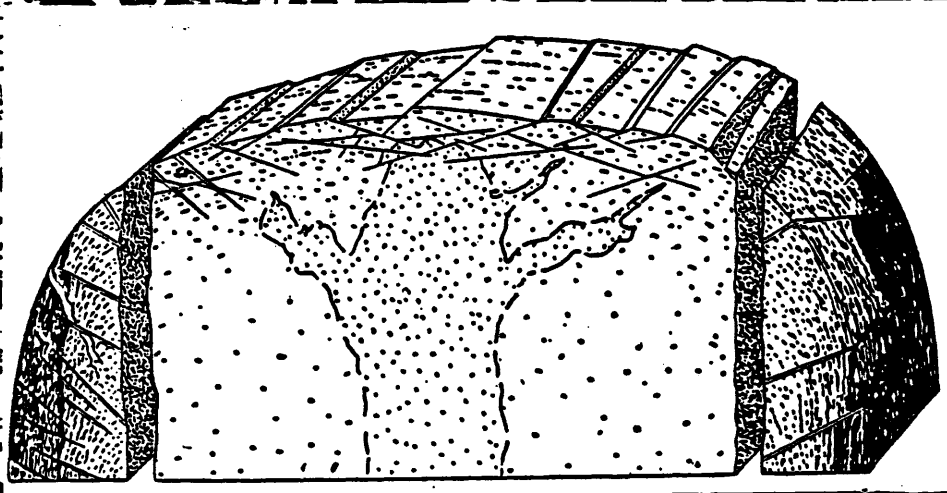
SHAPE, MODULATE, TRANSMUTE, EXPAND, AND TRANSACT CONSCIOUSNESS.

IT IS ENTIRELY THROUGH THEIR TRANSDUCTIVE ABILITIES AND POWERS

THAT WE EACH HAVE CONSCIOUSNESS...AND MAY PARTAKE OF BEING.

WITHOUT THEIR MEDIATIONS AND MODULATIONS WE ARE UNABLE TO

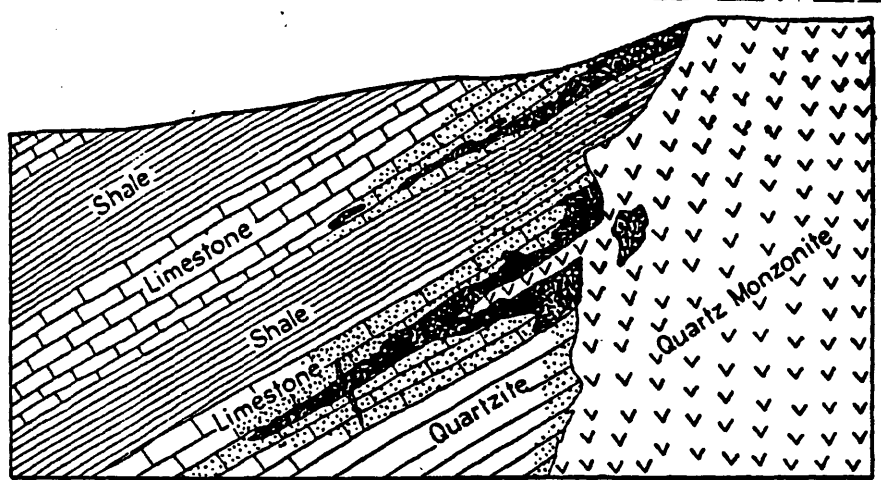
COMPREHEND MEANINGS AND MESSAGINGS.



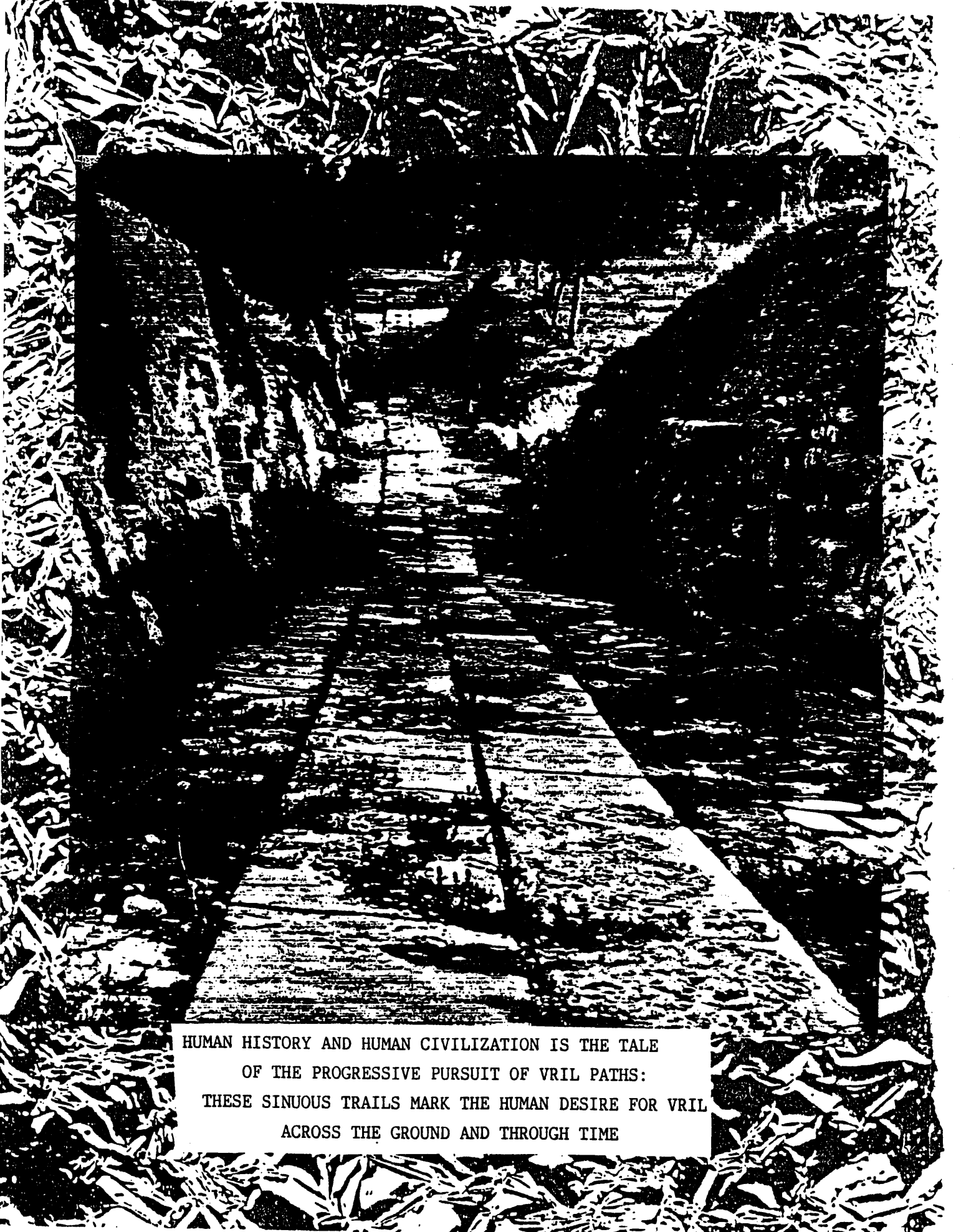
VRIL CONCENTRATIONS EMERGE FROM UNKNOWN DEEP REACTION SITES...

WHERE EARTH IS TRANSACTING MEANING AND MESSAGE WITH THE FORMATIVE RAYS,
THESE EMERGING VRIL THREADWAYS MAY SO DE-INERTIALIZE MATTER THAT SENSATE HEAT,
FRACTURES, AND REALIGNMENTS MAY OCCUR.

YET IT IS VRIL WHICH MANUFACTURES ALL THESE MANIFESTATIONS...VRIL REACTIONS
WHICH BEGIN AMONG THE STARS AND IN THE MYSTERIOUS CAVERNOUS DEEP
(WHERE CONSCIOUSNESS MERGES WITH THE ANCIENTMOST PAST)
GENERATE ALL SURFACE ACTIONS AND MANIFESTATIONS.



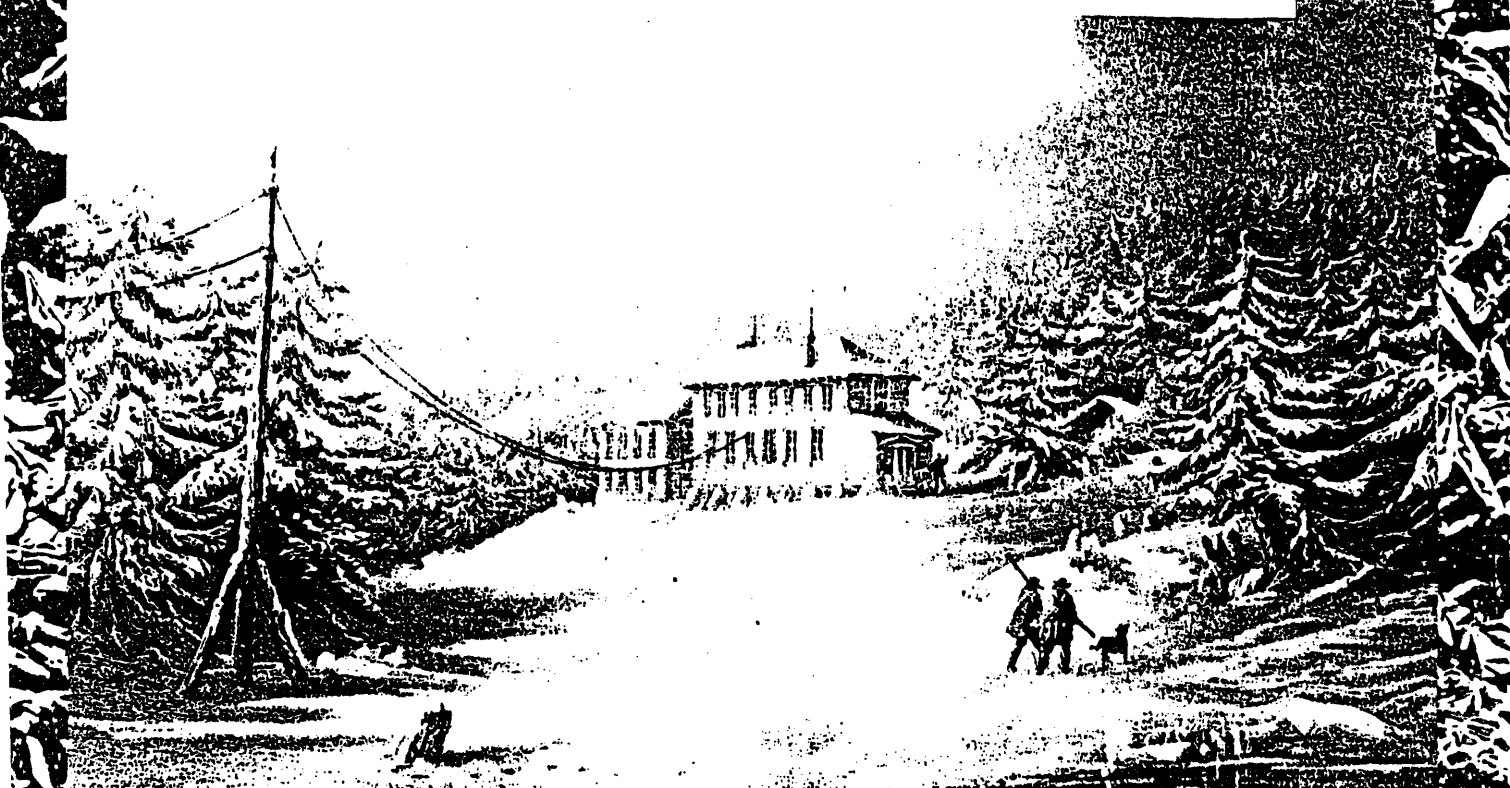
VRIL RESONANCES IN THE GRÜND MAY BE ENTUNED AND MODULATED.



HUMAN HISTORY AND HUMAN CIVILIZATION IS THE TALE
OF THE PROGRESSIVE PURSUIT OF VRIL PATHS:
THESE SINUOUS TRAILS MARK THE HUMAN DESIRE FOR VRIL
ACROSS THE GROUND AND THROUGH TIME

ÆTHERFORCE

THE PROGRESSIVE SATURATION OF TELEGRAPHIC SYSTEMS IN VRIL
CONTRIBUTED ENTIRELY TO THE REGIONAL AND TRANSREGIONAL
TRANSFORMATION OF HUMAN CONSCIOUSNESS...NOT BECAUSE OF THE
EXCHANGE OF HUMAN THOUGHTS OR SIGNALS:



R.M. Bryson, lith from a drawing by

Ion, Day & Sons, Limited, Lith

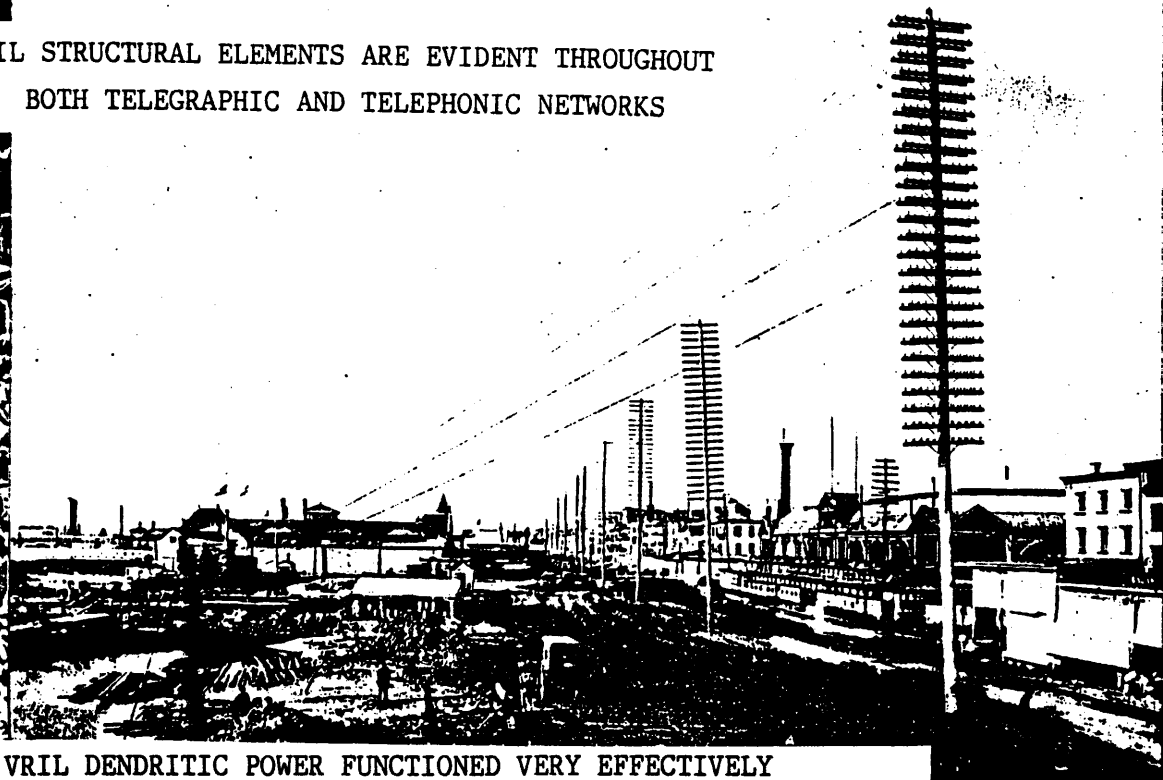
TRANSFORMATION COMMENCED WITH THE ERECTION AND STRUCTURING
OF THE FIRST TELEGRAPHIC SYSTEMS.



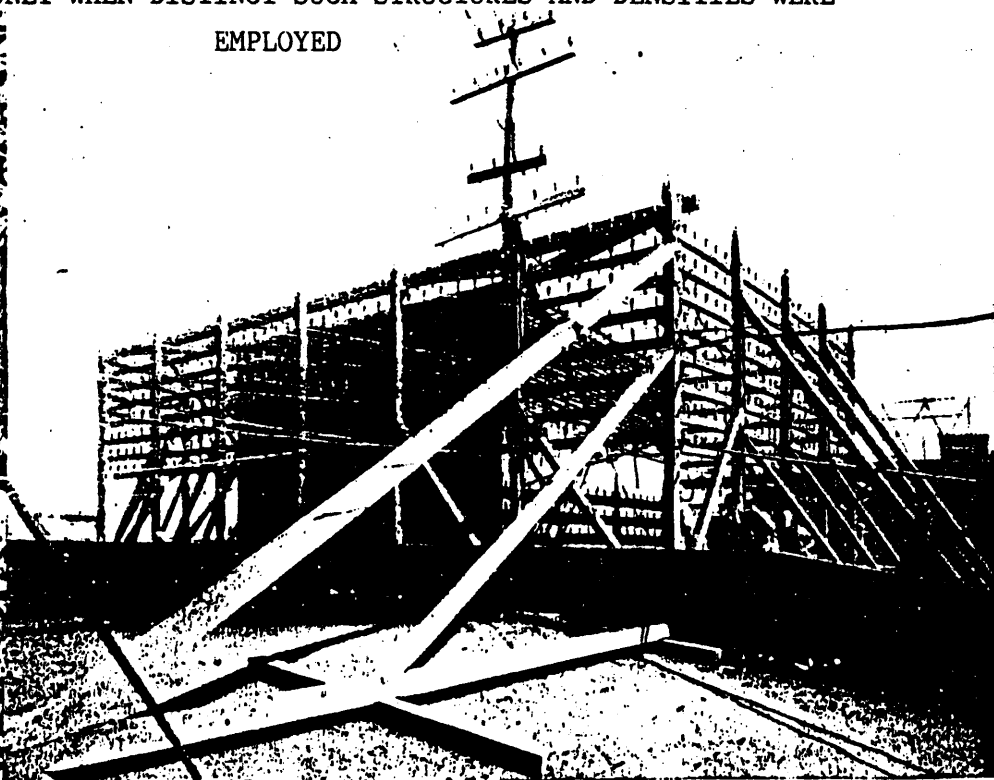
THESE EFFECTIVELY CONDUCTED AND ENHANCED THE LOCAL VRIL CONTENT
OF HUMAN SOCIETY AND HUMAN INTERACTIONS

ETHERFORCE

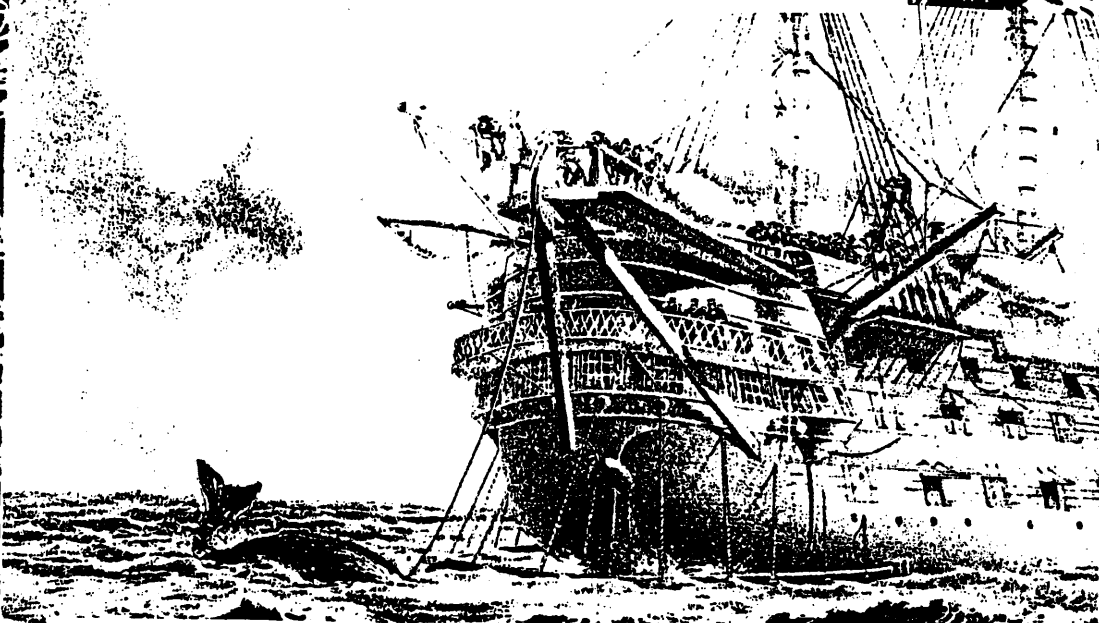
VRIL STRUCTURAL ELEMENTS ARE EVIDENT THROUGHOUT
BOTH TELEGRAPHIC AND TELEPHONIC NETWORKS



VRIL DENDRITIC POWER FUNCTIONED VERY EFFECTIVELY
WHEN SPECIFIC DENSITIES OF STRUCTURE WERE ACHIEVED.
THE DISTRIBUTION OF MEANING AND MESSAGE WAS THUS ENHANCED
ONLY WHEN DISTINCT SUCH STRUCTURES AND DENSITIES WERE
EMPLOYED

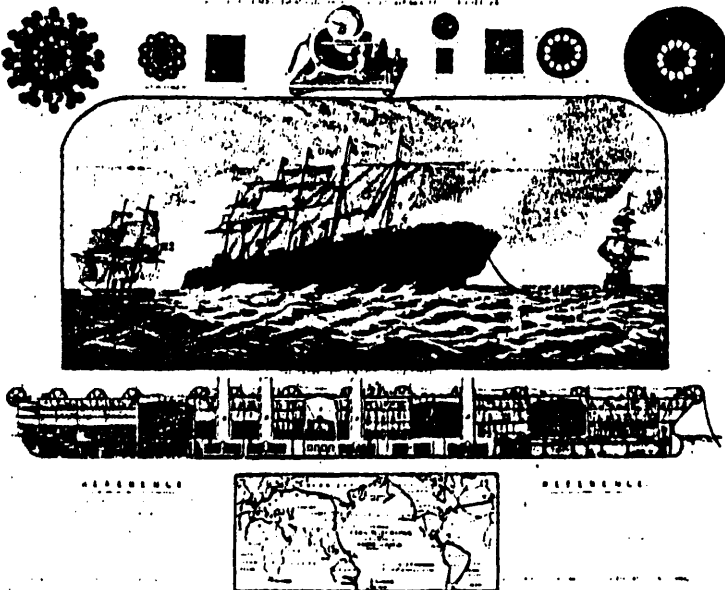
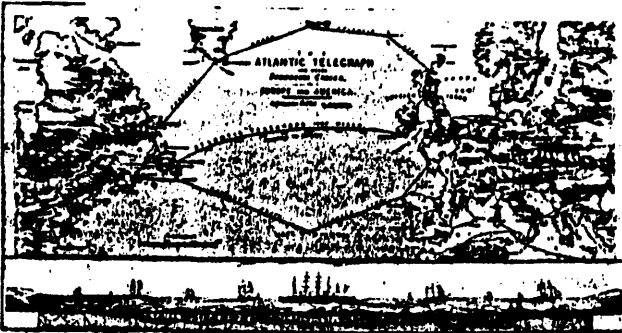


RADIOMANTIC CONNECTION OF CONTINENTS AND ITS IMPLICATIONS UPON CONSCIOUSNESS

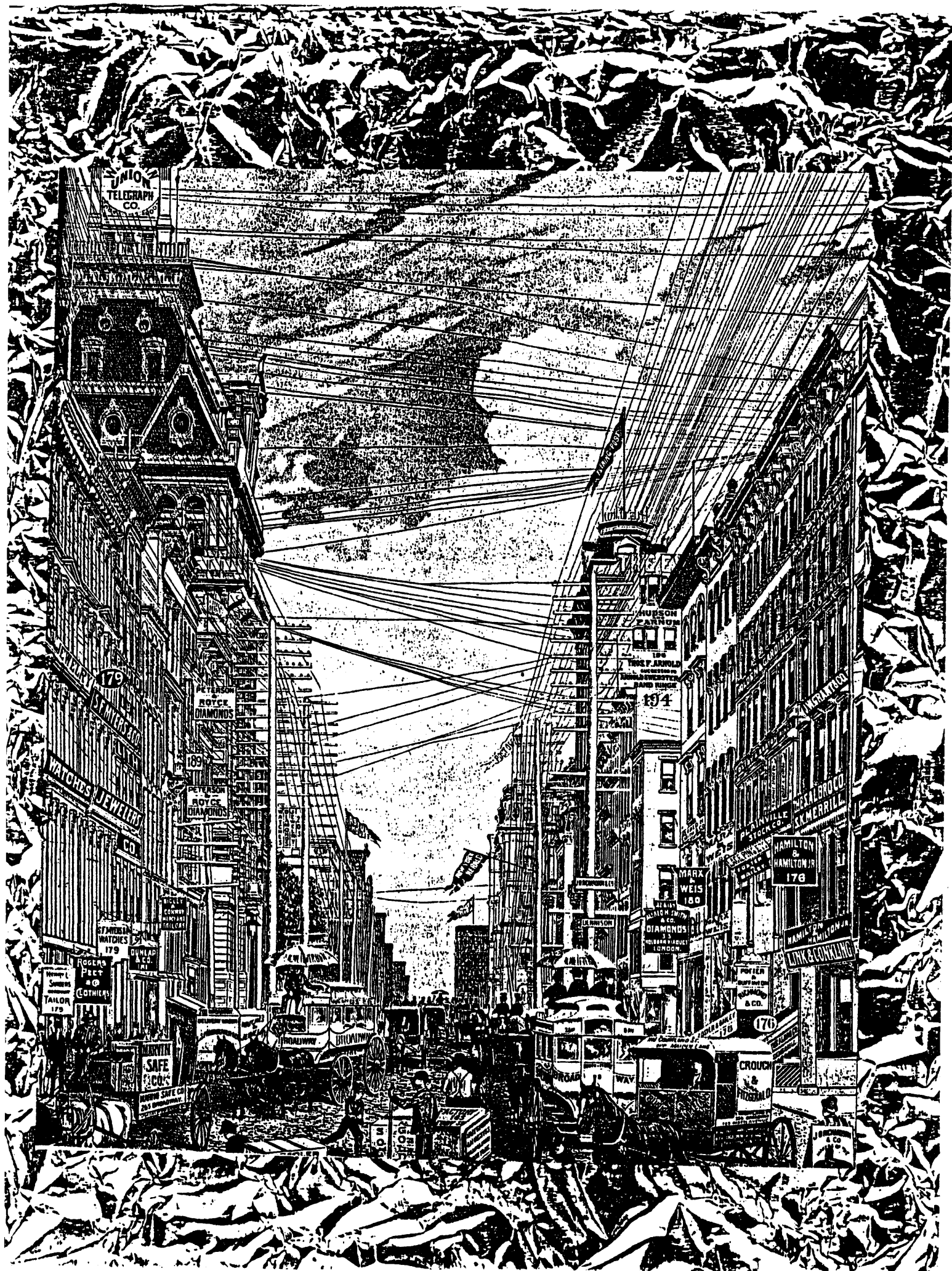


THE CONCEPT OF LAYING A CABLE ACROSS THE ATLANTIC
IS BOTH STARTLING AND EXCESSIVE:

VRIL CONSCIOUSNESS WAS REVEALING A FAR MORE
NATURAL AND PRE-EXISTENT MEANS FOR ACHIEVING
TRANSCONTINENTAL AND INTERCONTINENTAL
TRANSACTIONS BETWEEN HUMAN BEINGS



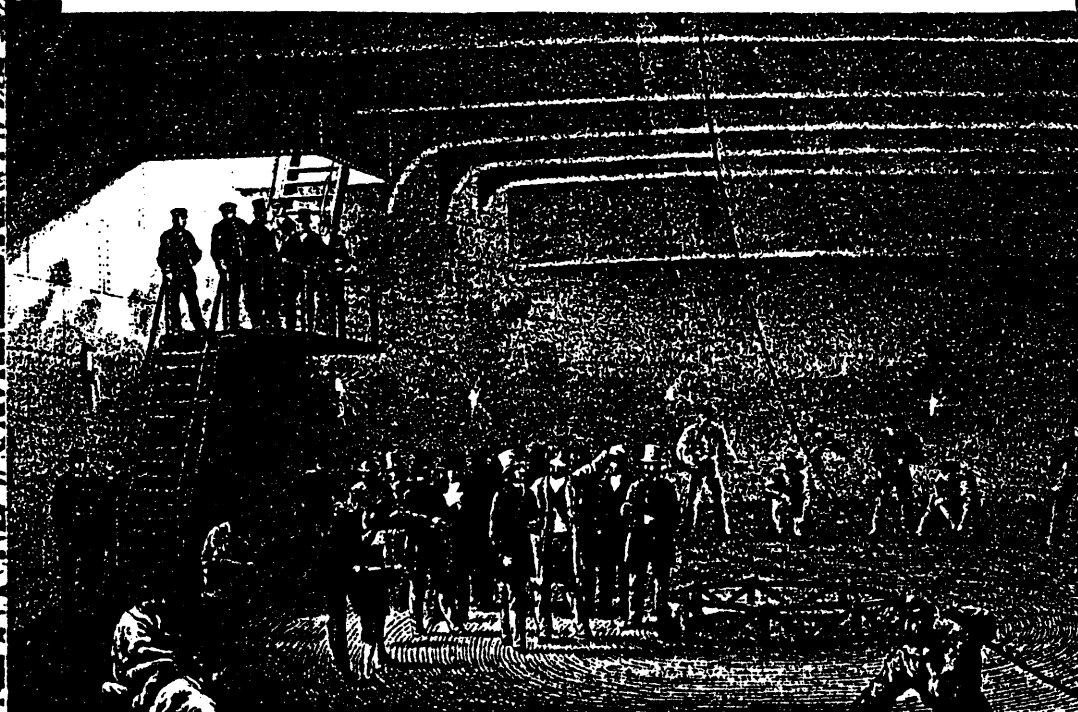
After various proposals for
northern and southern routes
involving intermediate land
stations, a 1850-mile trans-Atlantic
submarine telegraph cable was first
laid in 1858.



ETHERFORCE



THE CONSEQUENCES OF TRANSLINKING VRIL REGIONS WITH ONE ANOTHER
HAVE NEVER BEEN ADDRESSED IN FORMAL TERMS.
THE SYNTHETIC AND DANGEROUS TRANSLINKAGE OF NORTH AMERICA
WITH EUROPE WAS NEVER INSPIRED BY VRIL CONSCIOUSNESS



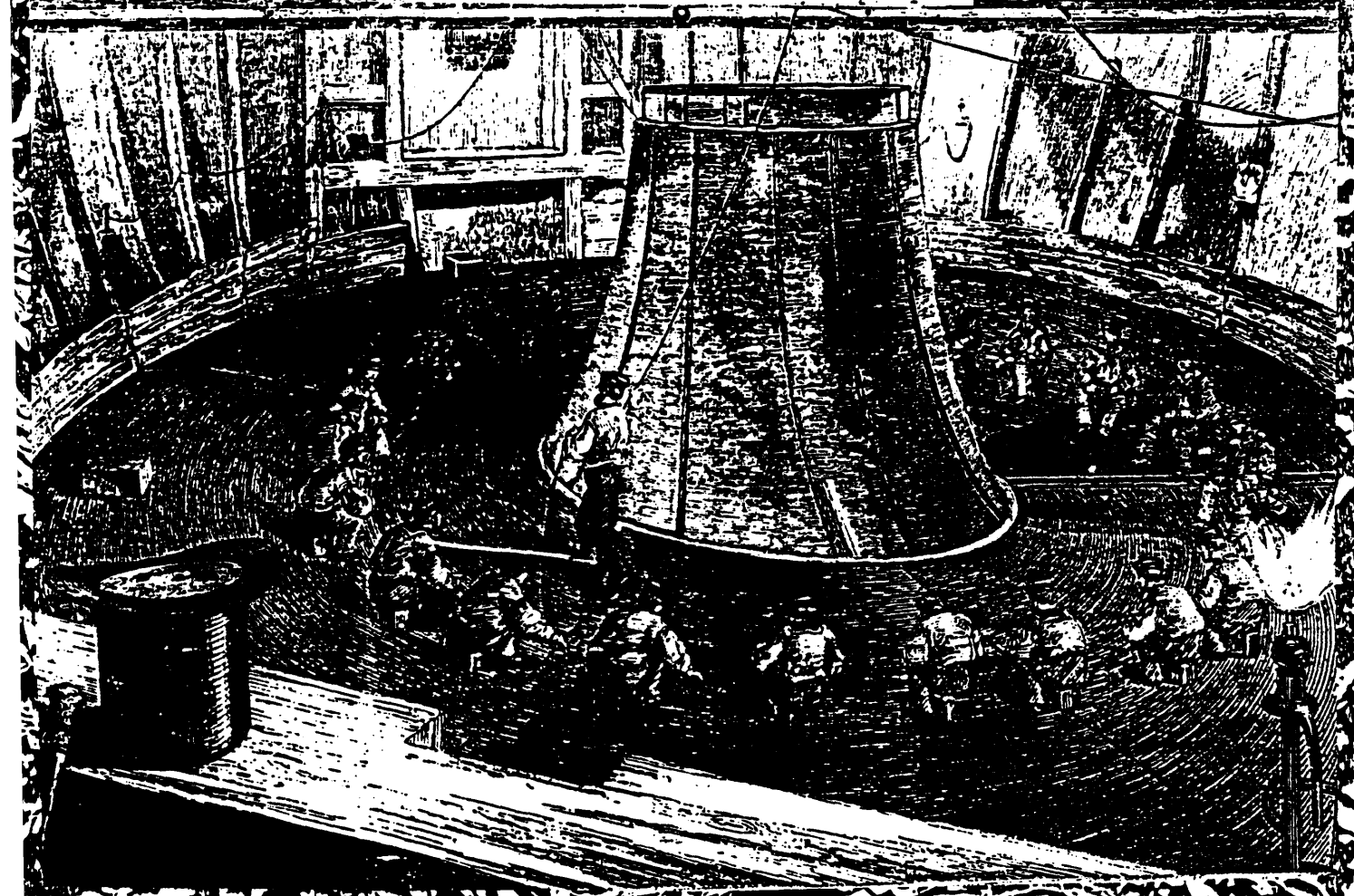
T. Paken, left from a drawing by R. Dudley

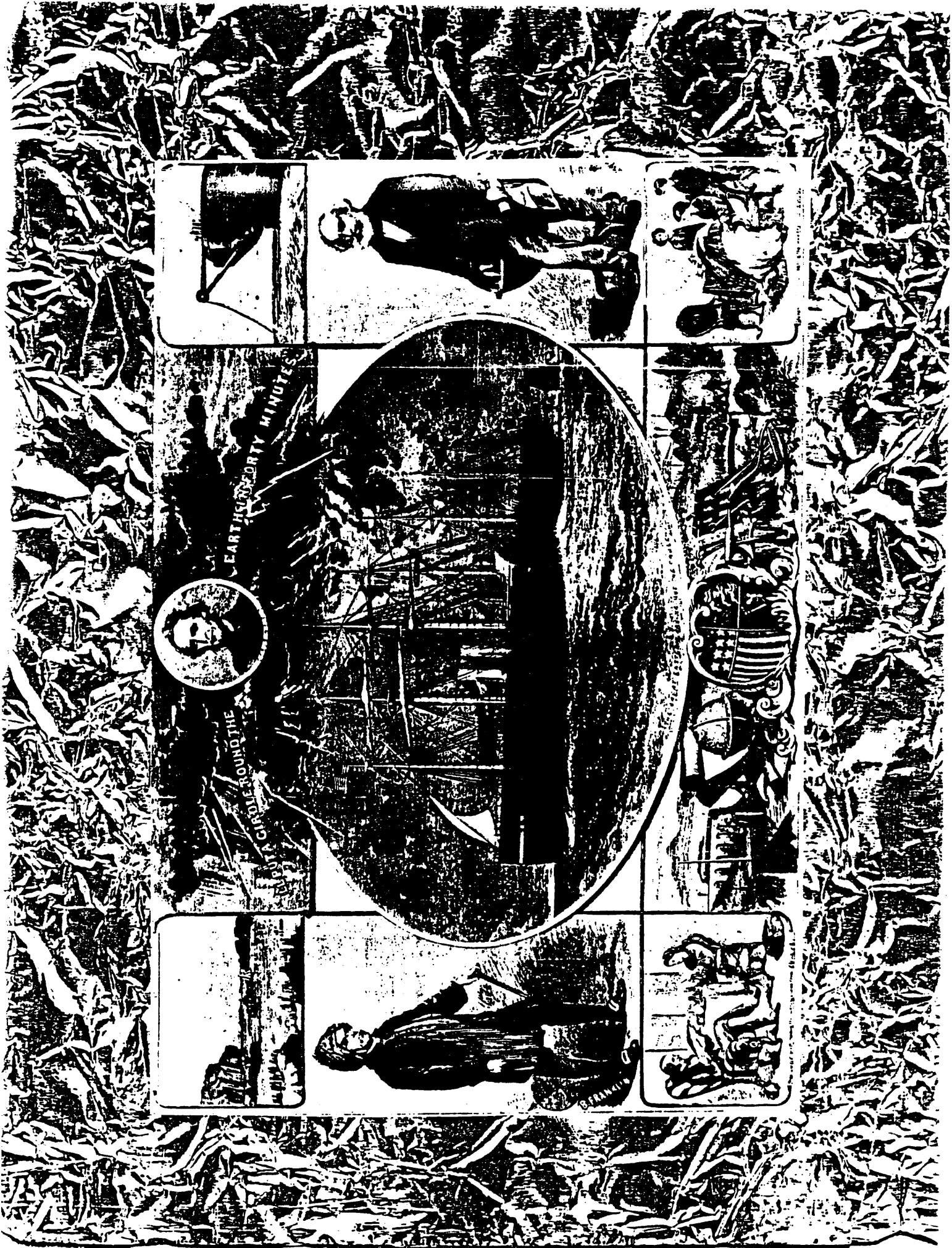
London, Day & Sons, Limited, Ltd

COILING THE CABLE IN THE AFTER TANK ON BOARD THE GREAT EASTERN AT SHEERNESS. VISIT OF H.R.H. THE PRINCE OF WALES ON MAY 24TH



HOW THE CABLE WAS STOWED AND LAID







ÆTHERFORCE

LOCATIONS WHERE THE VRIL RESONANT REGIONS WERE VIOLATED
BY CONNECTOR CABLES: SHORT-CIRCUITING THE
VRIL STRUCTURE OF THE GROUND

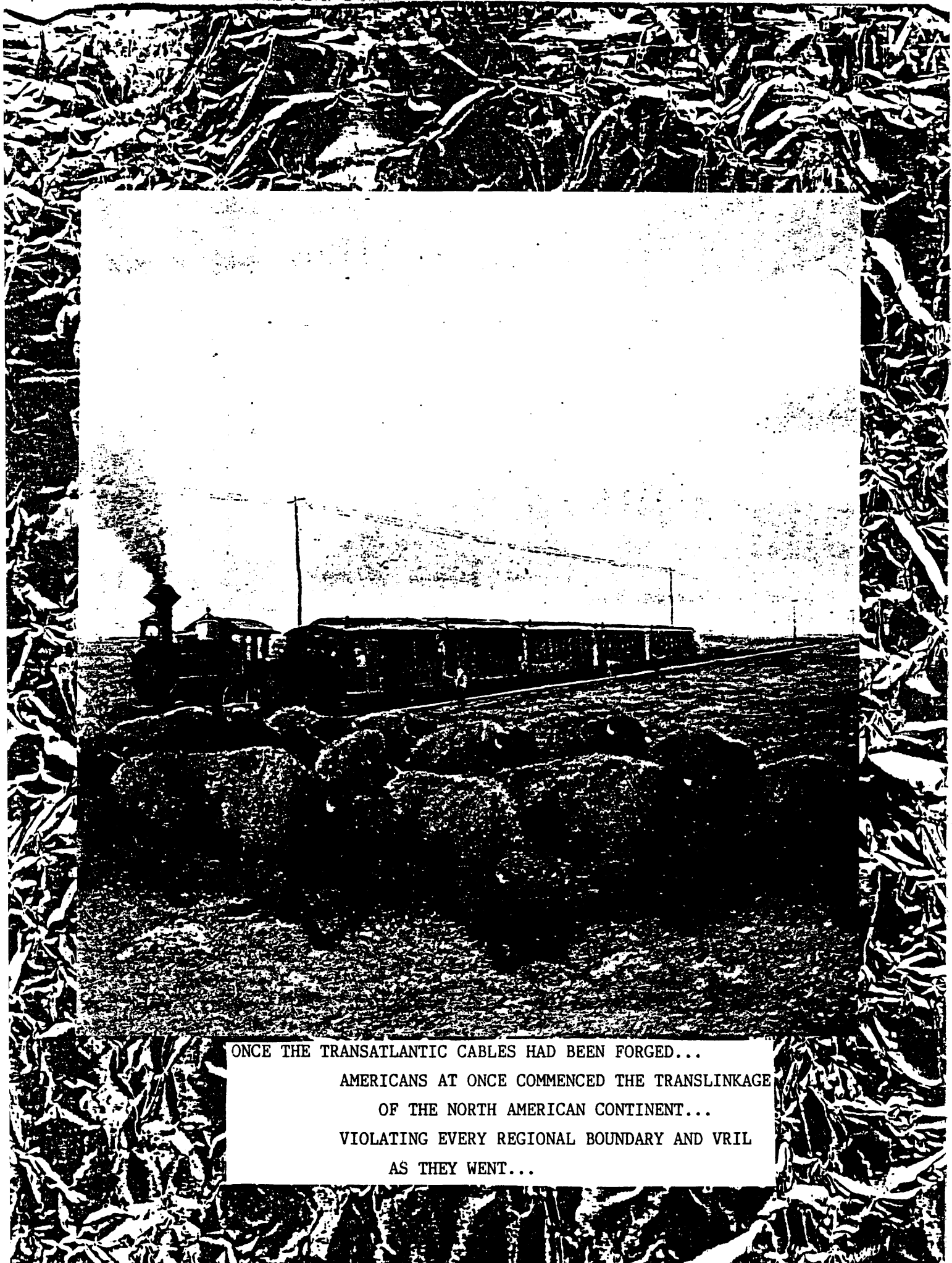
SUBMARINE TELEGRAPH CABLES

*Now in successful Working Order, the Insulated Wires for which were manufactured by the Gulla
Percha Company, Patentees, Wharf Road, City Road, London.*

No.	Date when Laid.	From	To	No. of Conductors.	Length of Cable in Statute Miles.	Length of Insulated Wire in Statute Miles.	Depth of Water in Fathoms.	By whom Covered and Laid.	Length of time the Cables have been working.
1	1851	Dover	Calais	4	27	108	.	{ Wilkins & Wetherley, Newall & Co., Kuper & Co., and Mr. Crampton.	14 years
2	1853	{ Denmark, across the Belt }	{ }	3	18	54	.	R. S. Newall & Co. . .	12 "
3	1853	Dover	Ostend	6	80½	483	.	{ Newall & Co., and Kuper & Co. . . }	12 "
4	1853	Frith of Forth	Donaghadee	4	6	24	.	R. S. Newall & Co. . .	12 "
5	1853	Portpatrick	Donaghadee	6	25	150	.	" " " "	12 "
6	1853	Across River Tay	Donaghadee	4	2	8	.	" " " "	12 "
7	1854	Portpatrick	Whitehead	6	27	162	.	" " " "	11 "
8	1854	Sweden	Denmark	3	12	36	14	Glass, Elliot, & Co. . .	11 "
9	1854	Italy	Corsica	6	110	660	325	" " " "	11 "
10	1854	Corsica	Sardinia	6	10	60	20	" " " "	11 "
11	1855	Egypt	Sicily	4	10	40	"	" " " "	11 "
12	1855	Italy	Sicily	3	5	15	27	" " " "	10 "
13	1856	Newfoundland	Cape Breton	1	85	85	300	" " " "	9 "
14	1856	{ Prince Edward's Island }	{ NewBrunswick Island }	1	12	12	14	" " " "	9 "
15	1856	Straight of Canoe	Cape Breton, N.S.	3	1½	4½	.	{ Nova Scotia Electric Telegraph Co. . . }	9 "
16	1857	Norway . across	Fiorde	1	49	49	300	Glass, Elliot, & Co. . .	8 "
17	1857	{ Across mouths of Danube }	{ }	1	3	3	.	" " " "	8 "
18	1857	Ceylon	{ Mainland of India }	1	30	30	.	" " " "	8 "
19	1858	Italy	Sicily	1	8	8	60	" " " "	7 "
20	1858	England	Holland	4	140	560	30	" " " "	7 "
21	1858	Ditto	Hanover	2	290	580	30	" " " "	7 "
22	1858	Norway . across	Fiorde	1	16	16	300	" " " "	7 "
23	1858	South Australia	King's Island	1	140	140	45	W. T. Henley	7 "
24	1858	Ceylon	India	1	30	30	45	" " " "	7 "
25	1859	Alexandria	Denmark	4	2	8	.	Glass, Elliot, & Co. . .	6 "
26	1859	England	Denmark	3	308	1104	30	" " " "	6 "
27	1859	Sweden	Gotland	1	64	64	80	" " " "	6 "
28	1859	Folkestone	Boulogne	6	24	144	32	" " " "	6 "
29	1859	{ Across rivers in India }	{ }	1	10	10	.	" " " "	6 "
30	1859	Malta	Sicily	1	60	60	79	" " " "	6 "
31	1859	England	Isle of Man	1	36	36	30	" " " "	6 "
32	1859	Suez	Jubal Island	1	220	220	.	R. S. Newall & Co. . .	6 "
33	1859	Jersey	Pirou, France	1	21	21	18	Glass, Elliot, & Co. . .	5 "
34	1859	Tasmania	Bas Strait	1	240	240	.	W. T. Henley	5 "
35	1860	Denmark	{ (Great Belt) (12 miles) }	5	28	128	18	" " " "	5 "
36	1860	Dacca	Pegu	1	116	116	.	" " " "	5 "
37	1860	Barcelona	Mahon	1	180	180	1400	" " " "	5 "
38	1860	Minorca	Majorca	2	35	70	250	" " " "	5 "
39	1860	Iviza	Majorca	2	74	148	600	" " " "	5 "
40	1860	St. Antonio	Iviza	2	76	152	450	" " " "	5 "
41	1861	Norway . across	Fiorde	1	16	16	300	Glass, Elliot, & Co. . .	4 "
42	1861	Toulon	Corsica	1	193	193	1550	" " " "	4 "
43	1861	Holyhead	Howth, Ireland	1	64	64	.	{ Electric & Interna- tional Tel. Co. . . }	4 "

THE FOLLOWING IS A TABLE OF THE CABLES ALREADY LAID IN THE SEAS
AND OCEANS OF THE WORLD.

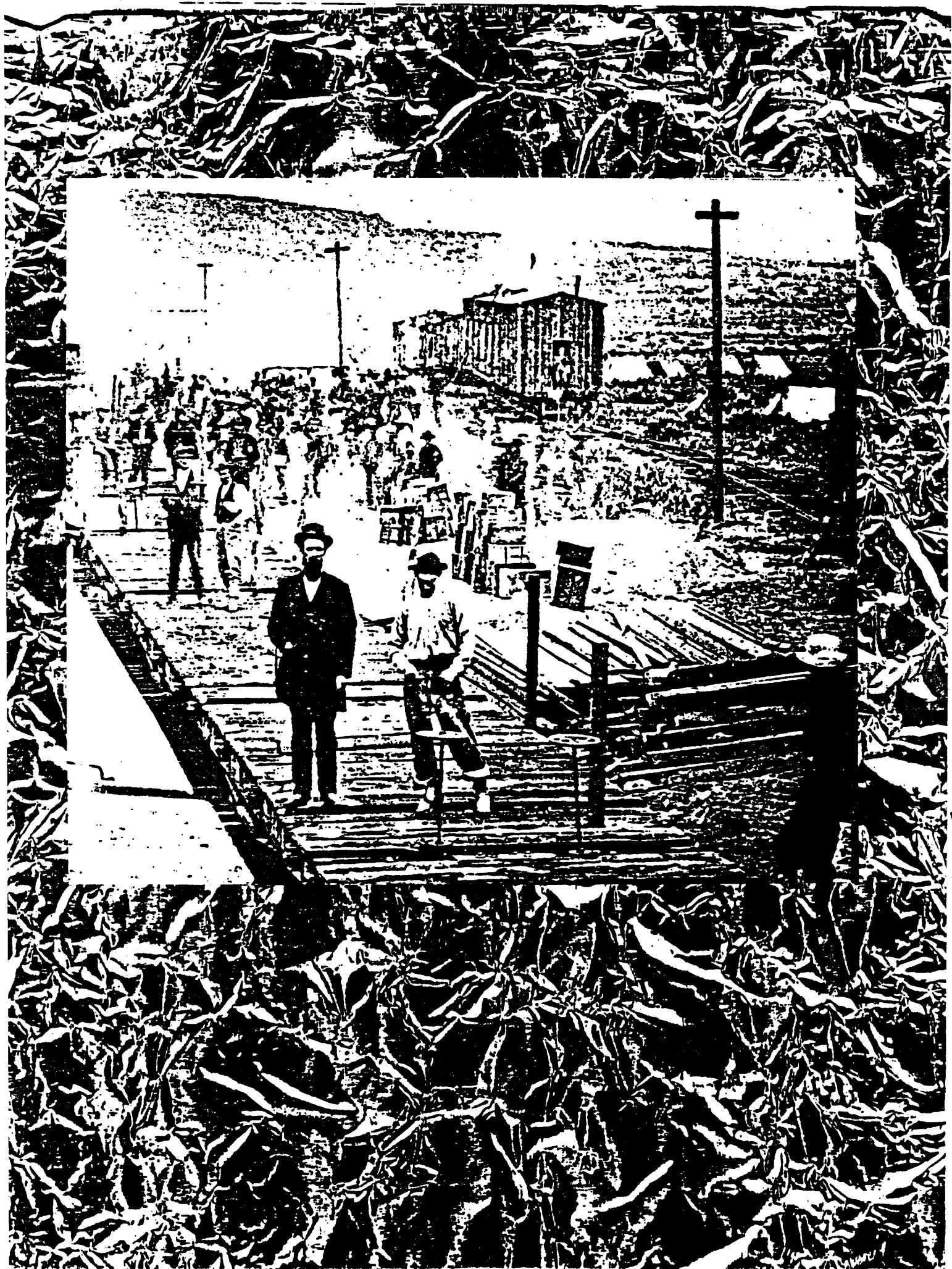
No.	Cable.	Iron.		lbs. G. P.	Copper.		Length of Cable.
		Weight.	Length.		lbs.	Length.	
1	Dover and Cape Grimes			13,230	3300	30	30
2	Dover and Calais	314,600	260	14,820	7080	104	26
3	Holyhead, Howth	156,480	960	11,400	5400	80	80
4	{ Portpatrick and Do- naghadee	316,200	300	20,312	10,125	150	23
5	Denmark	164,748	162	5400	2052	64	18
6	Dover, Ostend	1,138,320	1080	73,125	36,450	540	90
7	Frith of Forth	77,800	200	8180	18,520	20	5
8	Italy, Corsica	1,597,200	1320	104,940	44,550	660	110
9	Corsica, Sardinia	145,200	120	9540	4050	60	10
10	Holyhead, Howth	295,640	760	15,504	51,300	76	76
11	Do.	295,640	760	15,504	51,300	76	76
12	{ Portpatrick and White- head	328	848	312	22,280	10,530	16s 254
13	Sweden, Denmark	137,020	130	5558	2633	39	13
14	Black Sea			56,763	24,098	357	357
15	Do.	70,584	2076	24,652	11,678	173	173
16	{ Prince Edward's Is- land, New Brun- swick	46,512	144	1905	1134	84	12
17	England, Hanover	807,680	3360	66,360	30,240	2240	280
18	— Holland	2,439,840	1366	110,976	78,336	544	136
19	Liverpool, Holyhead	161,400	300	5925	3376	50	25
20	Channel Islands	450,306	837	14,787	10,230	93	93
21	Iale of Man	193,680	360	7344	2450	36	36
22	England, Denmark	2,734,200	4200	124,425	6700	4200	350
23	Folkestone, Boulogne	429,120	298	20,520	7778	576	24
24	Singapore, Batavia	564,300	9900	112,200	86,350	3850	550
25	Sweden, Gottland	248,064	768	10,176	6048	448	64
26	Tasmania	933,600	2400	38,160	16,480	240	240
27	Denmark, Great Belt	203,280	168	13,365	5628	84	14
28	Dacca, Pegu	119,016	2088	21,228	18,096	812	116
29	{ Newfoundland, Cape Breton	290,700	900	13,515	8500	595	85
30	First Atlantic	5,140,800	428,400	748,000	340,000	23,800	3400
31	{ Sardinia and Malta: Dardanelles to Scio and Candia from Scio, Athens, to Syra and Scio	3,326,400	12,600	111,300	70,000	4900	700
32		631,104	8304	82,321	51,900	3633	519
33	Sardinia, Bona	707,000	1500	42,750	80,000	500	123
34	Red Sea and India	6,126,714	63,168	743,908	547,404	24,563	3509
35	Sicily and Malta	490,100	700	10,080	7000	480	70
36	Barcelona, Mahon	538,660	2880	25,920	16,740	1260	180
37	{ Iviza to Majorca: St. Antonia to Iviza	639,900	2700	31,800	18,000	1200	150
38	Toulon, Algiers	465,600	4800	93,600	44,640	3360	480
39	Corfu, Otranto	427,800	600	11,700	5880	420	60
40	Toulon, Corsica	189,150	1950	39,000	18,135	1365	195
41	Malta, Alexandria	5,829,930	27,630	10,745	532,645	10,745	1535
42	Wexford	687,204	756	30,288	23,436	1764	63
43	England, Holland	2,439,840	1360	110,076	78,336	644	136
44	Sardinia, Sicily	223,100	2300	42,400	36,000	1610	230
45	Persian Gulf	9,677,544	17,988	357,500	292,500	1498	1490



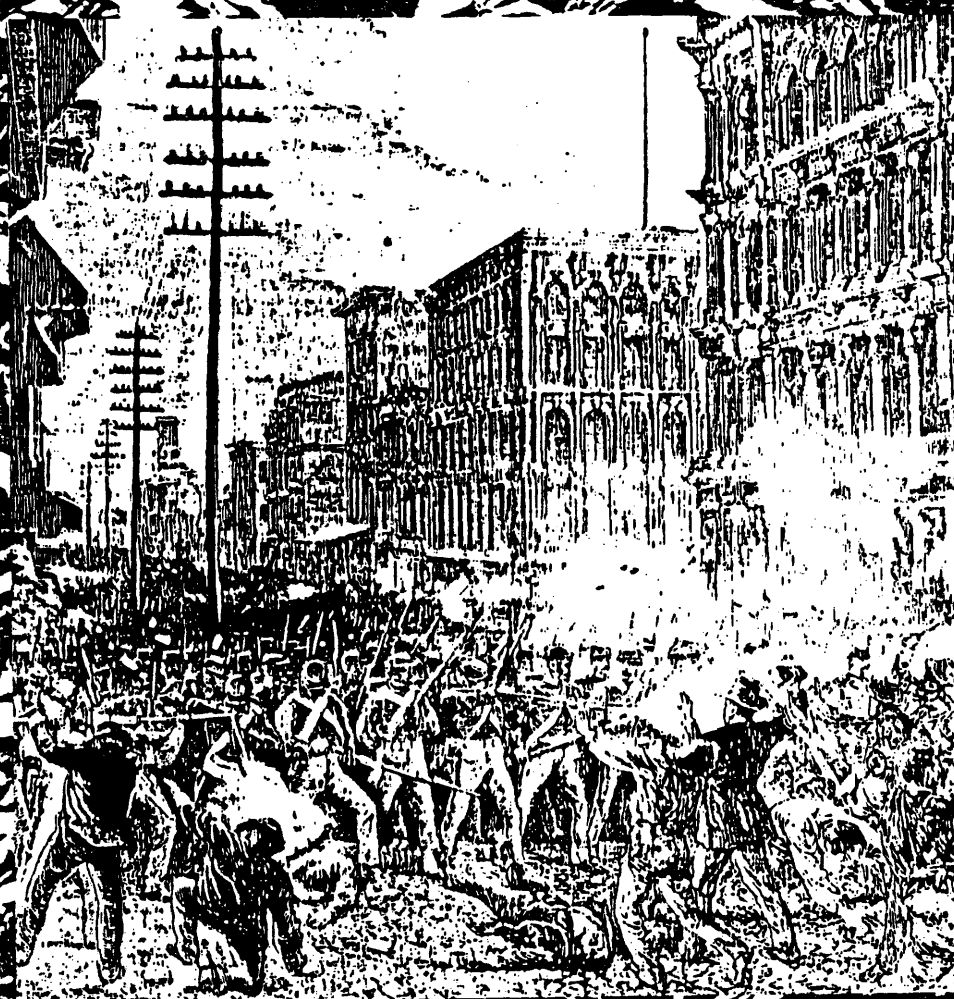
ONCE THE TRANSATLANTIC CABLES HAD BEEN FORGED...

AMERICANS AT ONCE COMMENCED THE TRANSLINKAGE
OF THE NORTH AMERICAN CONTINENT...

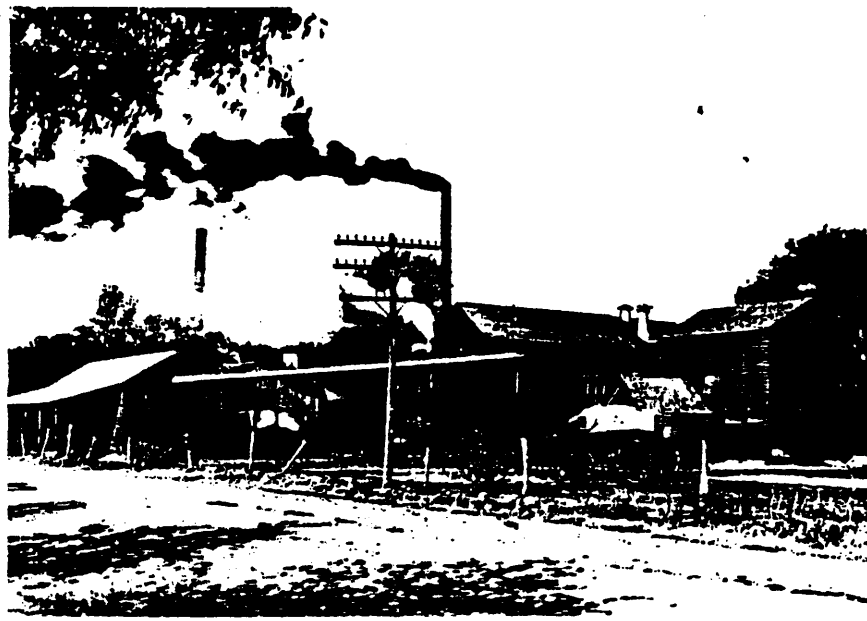
VIOLATING EVERY REGIONAL BOUNDARY AND VRIL
AS THEY WENT...



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SAMUEL MORSE ATTEMPTED TO LAY CABLE ACROSS THE GROUND...

FROM STATION TO STATION...

BUT FOUND THAT TRANSMISSION AND RECEPTION WERE BOTH IMPOSSIBLE
BECAUSE OF "GROUND STATIC"

HE THEREAFTER CONCEIVED

THE NOTION OF HOISTING HIS CABLES UP ON AERIAL POLES.

THIS IS THE ORIGIN OF THE TELEGRAPH POLE ARRAY.



TELEGRAPHERS HAD LEARNED THAT RHEOSTATIC TUNING WAS ABSOLUTELY NECESSARY
IN OBTAINING THE MOST POWERFUL SIGNALS.

EACH SPECIFIC REGION OF GROUND HAD ITS SPECIFIC RHEOSTATIC REQUIREMENTS.
EACH GROUND REQUIRED A SPECIFIC SETTING ON THE CARBON RHEOSTAT.

NO TWO GROUND SETTINGS WERE QUITE THE SAME.

BAIN DISCOVERED THIS PRINCIPLE: EDISON EMPLOYED IT TO EXACTION.

VRIL MANAGES ITS OWN AFFAIRS...AND SURRENDERS SYSTEMS TO ITS OWN NEEDS...



TELEGRAPHIC OPERATORS FORMED A VERITABLE NEW CONSORTIUM OF MINDS...

HUDDLED ABOUT THEIR SETS THEY WERE PRIVY TO THE MEANINGS AND MESSAGES OF
OF CONTINENTS AND INTERCONTINENTS...

THEIRS WAS A NEW CONSCIOUSNESS IN THE MAKING.

IS IT ANY WONDER THAT MANY HAD EXPERIENCED STRANGE EPISODES OF

"STRONG DAYDREAMING" HAD NOTHING TO DO WITH WORK HOURS
THESE REPORTS WERE THE FIRST RE-DISCOVERIES OF PHENOMENON
KNOWN TO ANCIENT CULTURES AND USED TO PRECISION
BY PRIESTS IN GOTHIC CATHEDRALS...

VISIONS, EMPATHIC COMMUNIONS, AND BILOCATIONS WERE UNNERVING
TO THESE NEW INITIATES.

IN THE ABSENCE OF ANY EXPRESSION CONCERNING THESE EPISODES FEW (IF ANY)
UNDERSTOOD THEIR TRUE IMPORT.

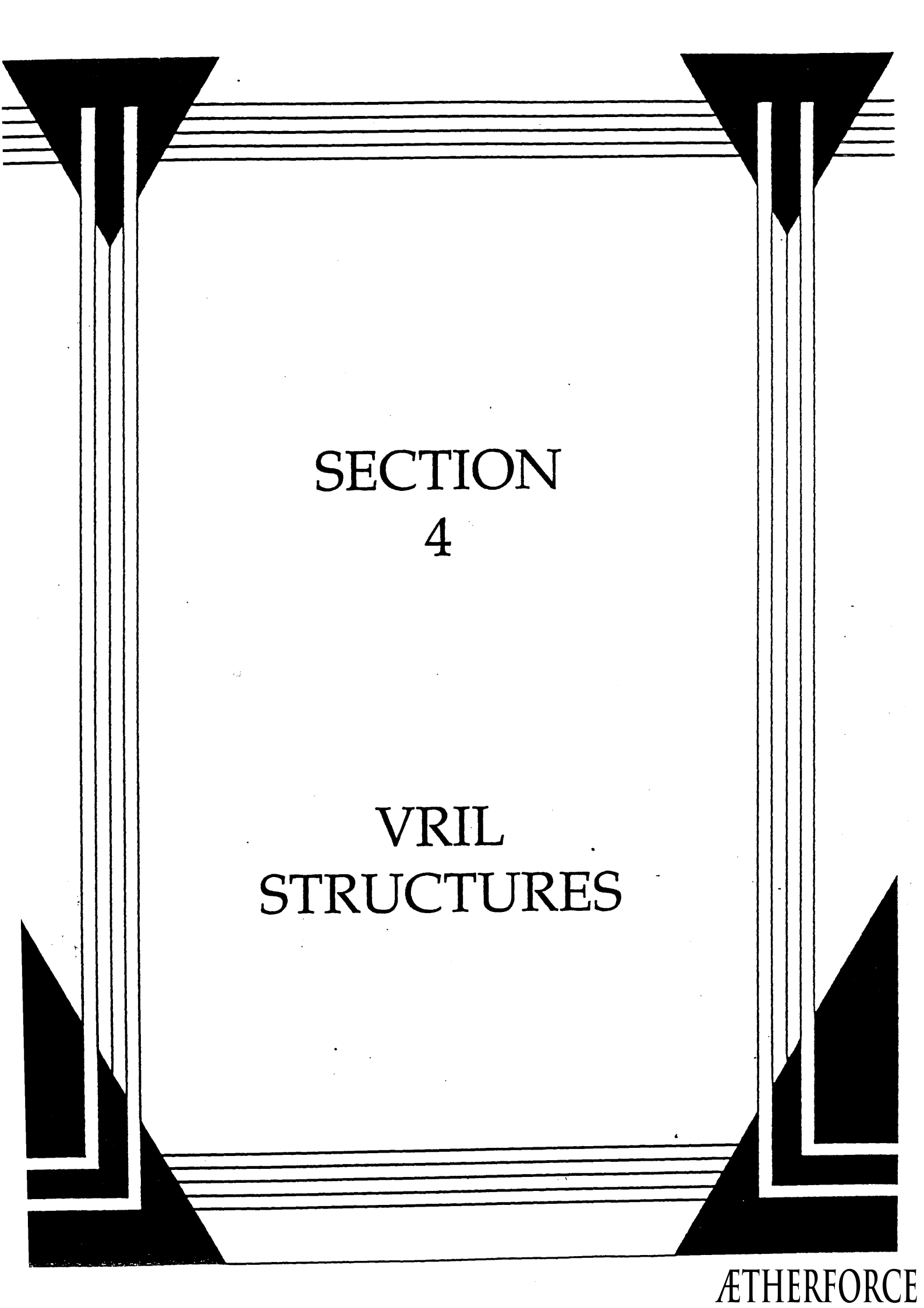
NATHAN STUBBLEFIELD...HIMSELF AN OLD TELEGRAPH MAN...

COMPREHENDED THESE FACTS QUITE WELL.

HIS VISIONARY POWERS ALLOWED HIM TO FIND THOSE EARTH SPOTS
FROM WHICH VRIL ISSUED IN GREAT FORCE...



Nathan Stubblefield, $\frac{3}{4}$ of a mile from Central Office, receiving messages by Wireless Telephone. Note the two steel rods in the ground, which establish connection with the electrical currents of the earth, being connected by 30 feet of wire attached to the receiver.



SECTION

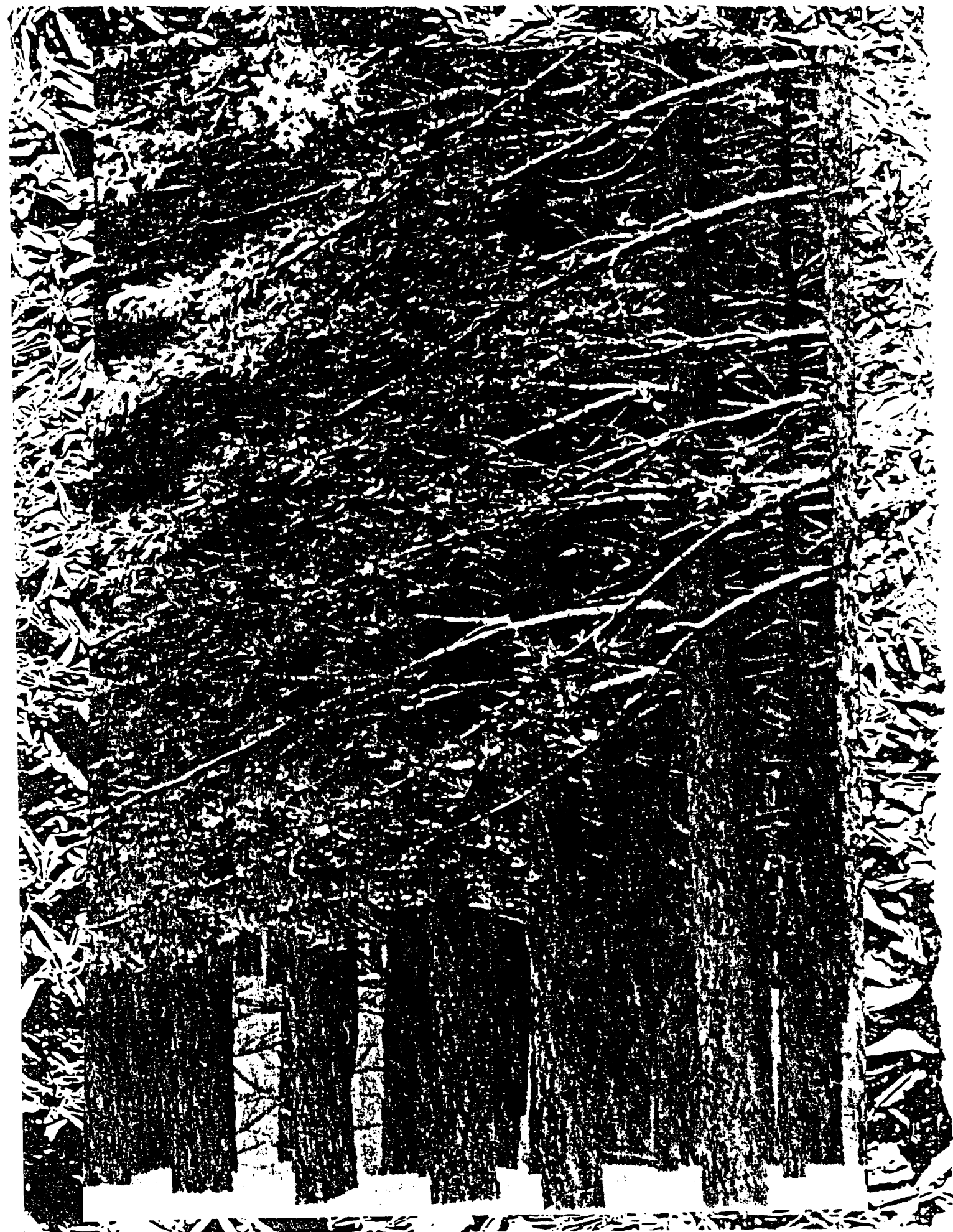
4

VRIL
STRUCTURES

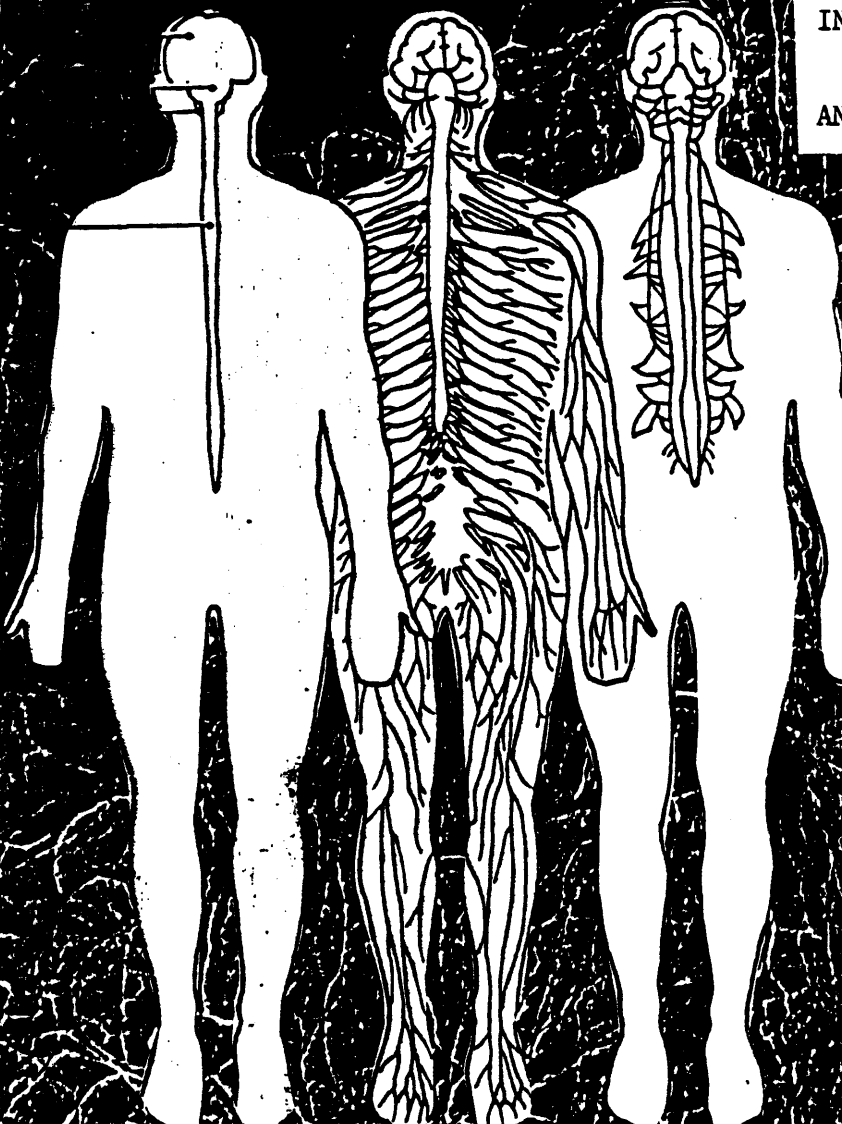


STUBBLEFIELD DISCOVERED THE WONDERFUL MEANS BY WHICH
VRIL INTEGRITY COULD BE MAINTAINED BETWEEN DISTINCT
REGIONS AND VILLAGES:
THROUGH THE VERY VRIL PATHS IN THE GROUND ITSELF

WITH NATHAN STUBBLEFIELD WE SEE THE REDISCOVERY THAT VRIL THREADWAYS
AND DENDRITIC CURRENTS TRAVERSE THE GROUND IN PLACE OF
FORMAL MANIFOLD MADE OF STONE...
THAT VRIL ORGANIZES AND VARIEGATES ITSELF THROUGH THE GROUND



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INERTIALIZED EXTENSIONS OF VRIL
THE NERVOUS SYSTEM
AND THE CIRCULATORY SYSTEM

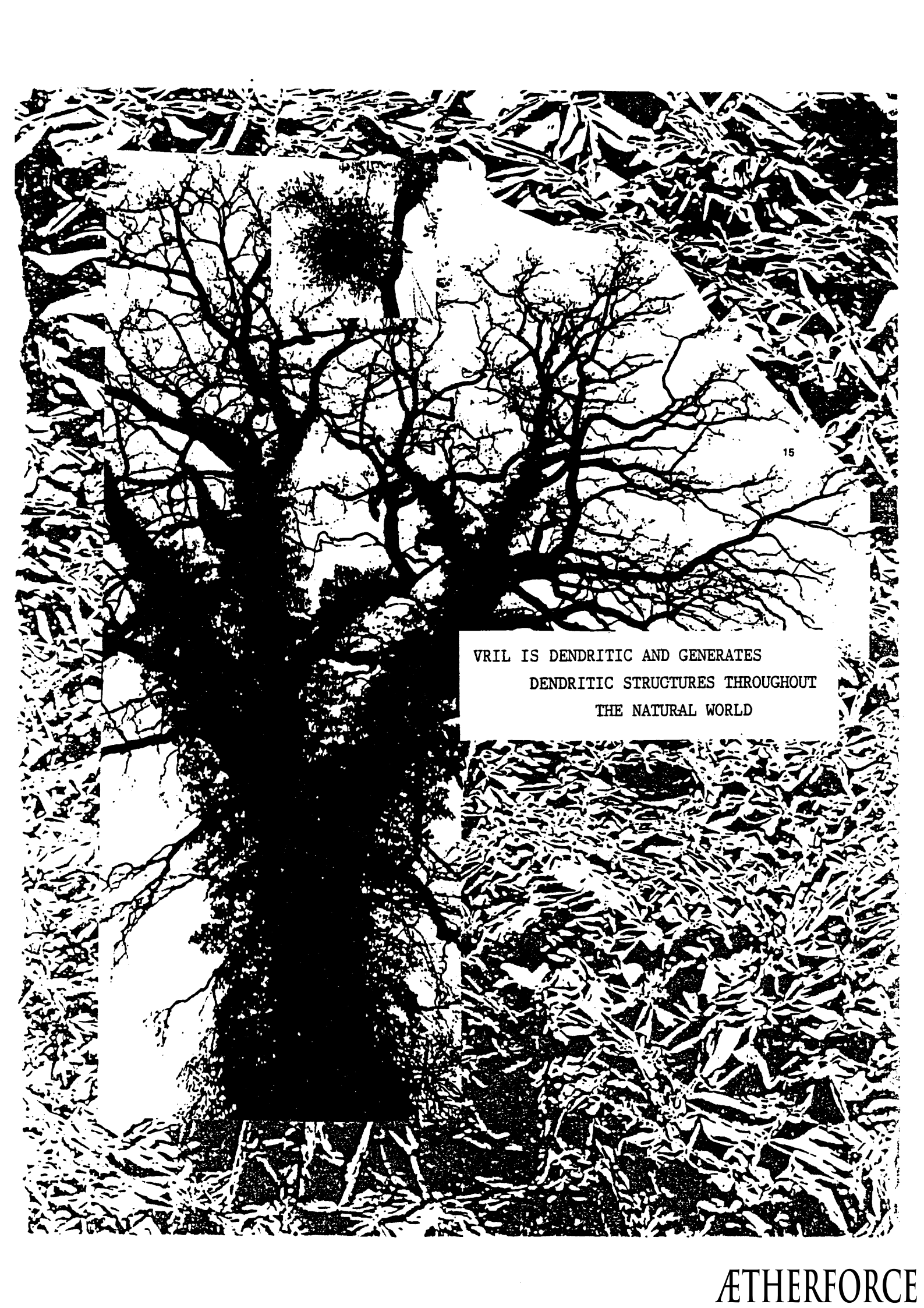
The image features three white human silhouettes against a dark, textured background of intricate, branching lines representing the VRIL network. The first silhouette on the left shows a simple outline with a vertical line down the spine. The middle silhouette shows a more detailed nervous system with branching lines. The third silhouette on the right shows a circulatory system with branching lines. The background is a dense, chaotic web of these branching lines, suggesting a universal network.

VRIL EXTENDS THROUGH US AND CONTINUES ENTWINING ITSELF THROUGHOUT THE UNIVERSE

WE ARE THUS INTERCONNECTED WITH EVERY

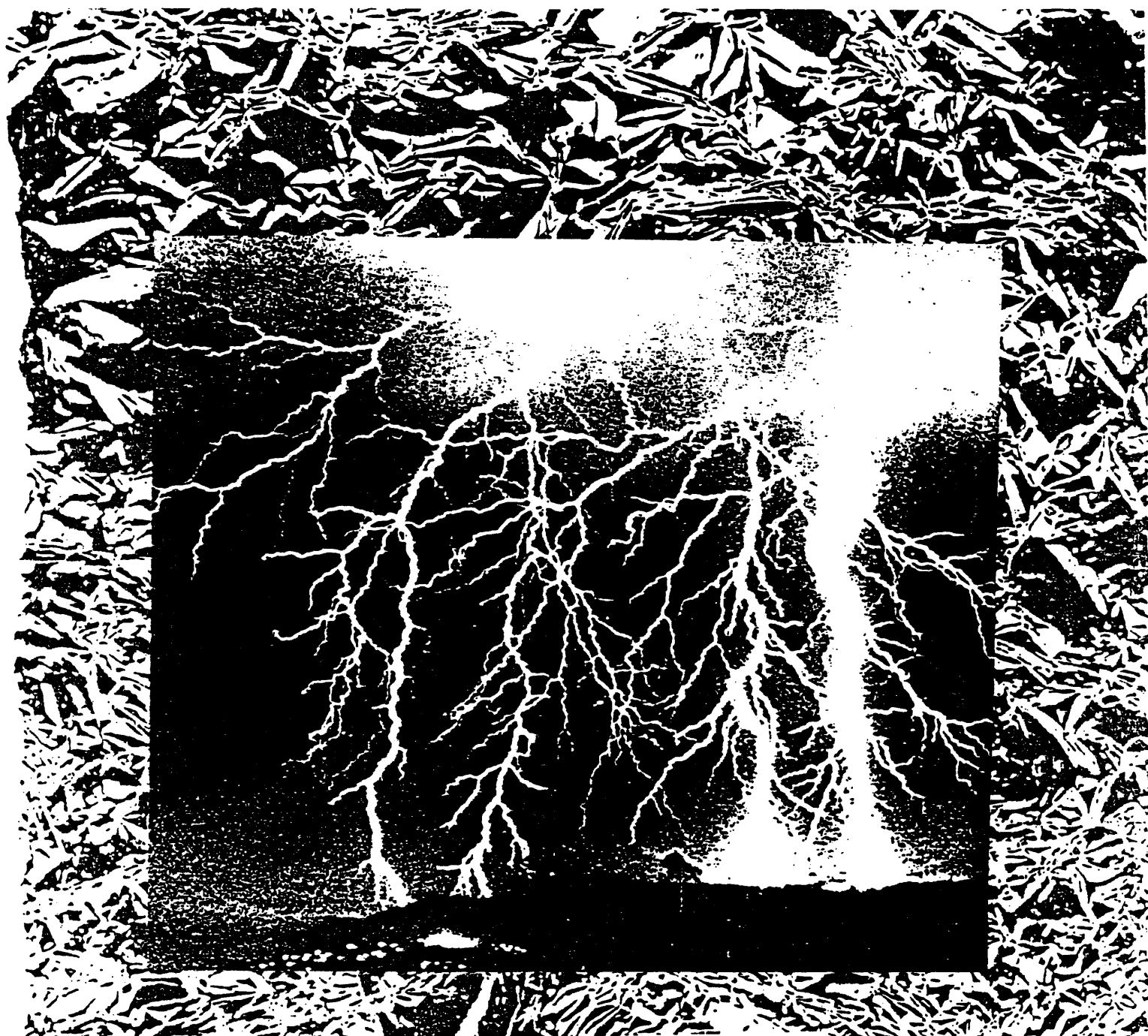
VRIL NETWORK ...AND SEEK TO IT...

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VRIL IS DENDRITIC AND GENERATES
DENDRITIC STRUCTURES THROUGHOUT
THE NATURAL WORLD

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VRIL DENDRITIC ARCHEFORMS IN LIGHTNING

VRIL DENDRITIC ARCHEFORMS IN WATER CHANNELS



AS VRIL ARCHEFORMS VARY...

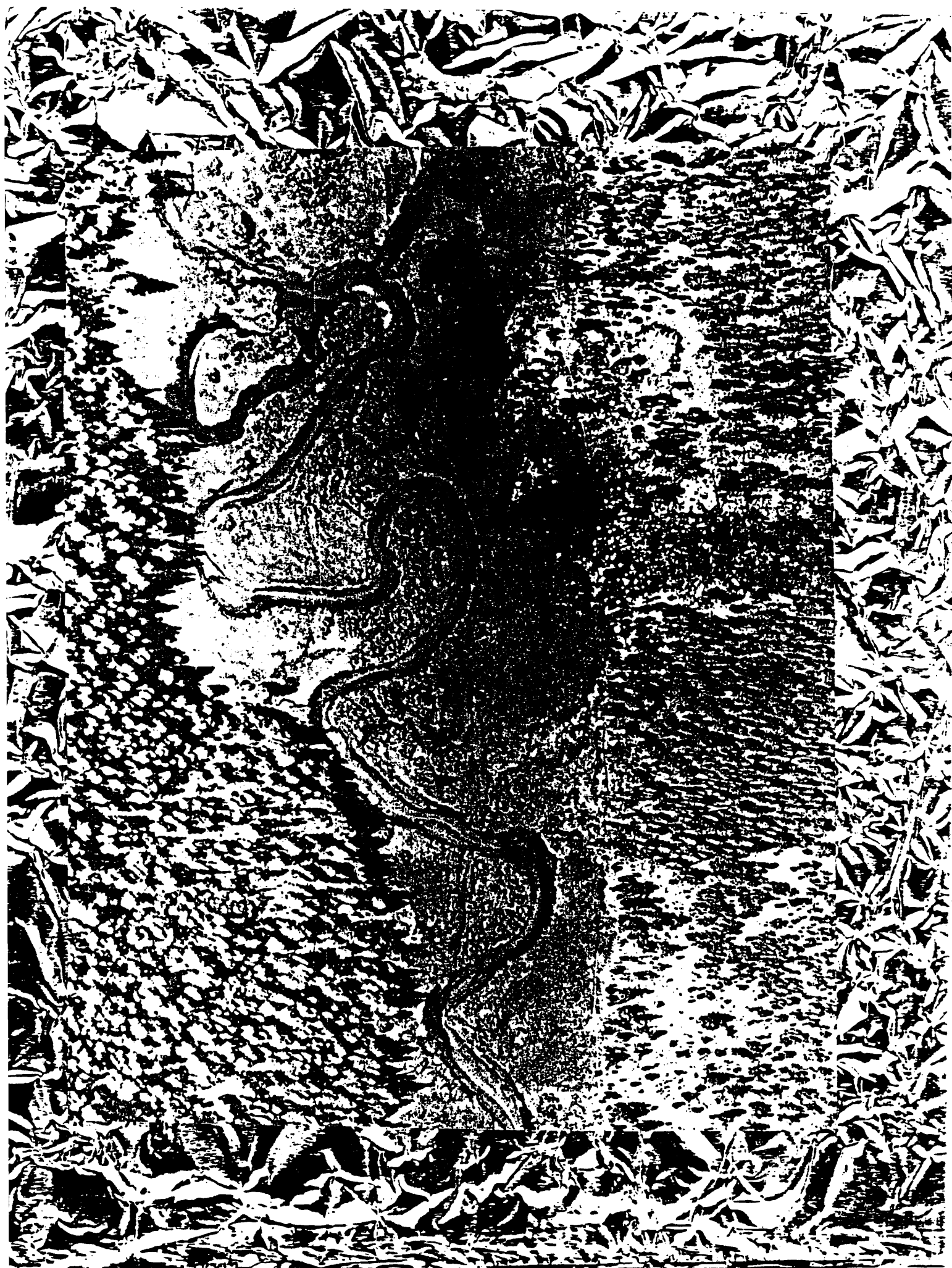
SO VARIES THE GENERATED GROUND MATTER.

VRIL RESONANCES EVIDENCE THEMSELVES ACCORDING TO THE HIERARCHY

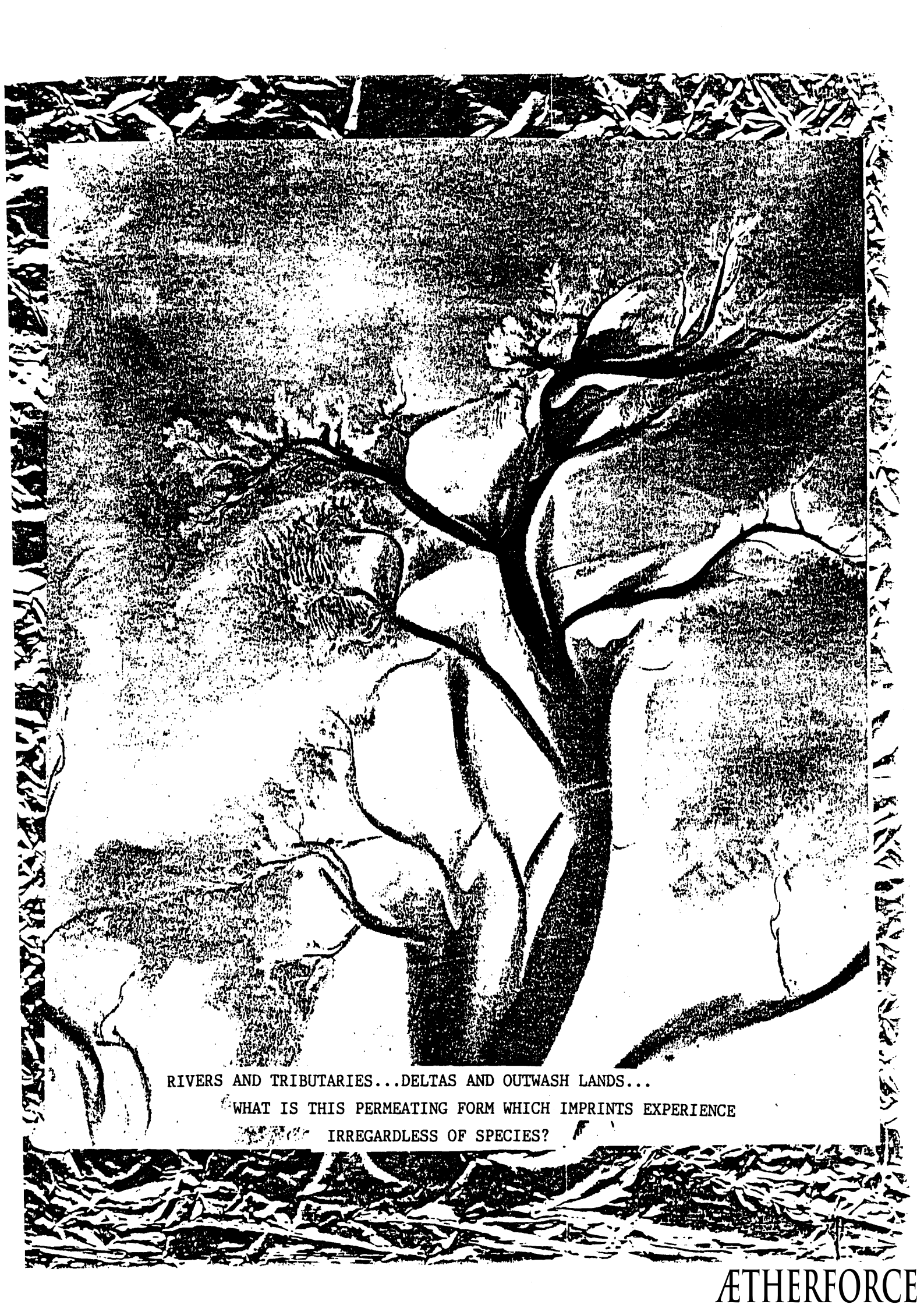
FROM WHICH THEY ARE GENERATED



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RIVERS AND TRIBUTARIES...DELTAS AND OUTWASH LANDS...

WHAT IS THIS PERMEATING FORM WHICH IMPRINTS EXPERIENCE
IRREGARDLESS OF SPECIES?

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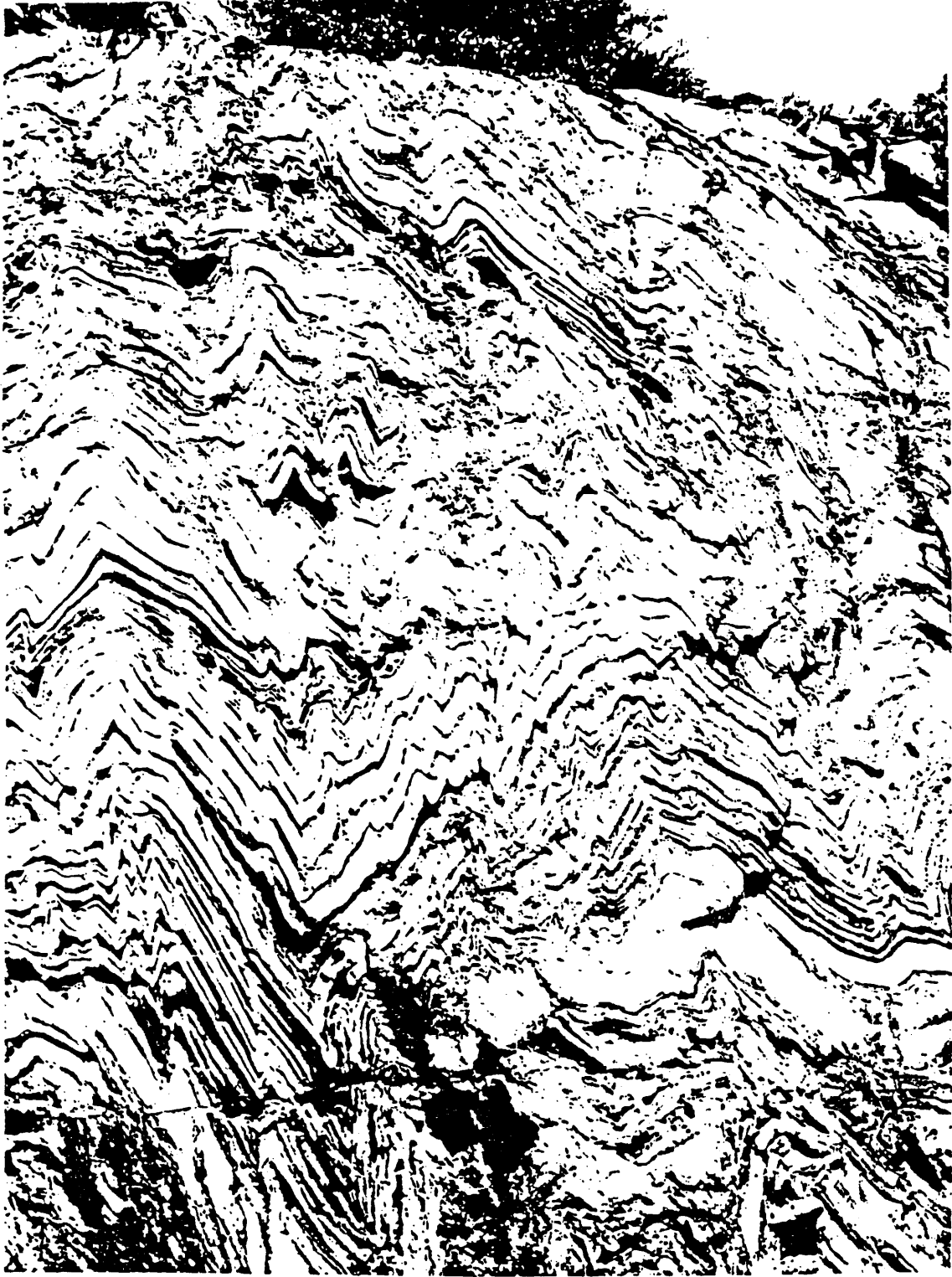


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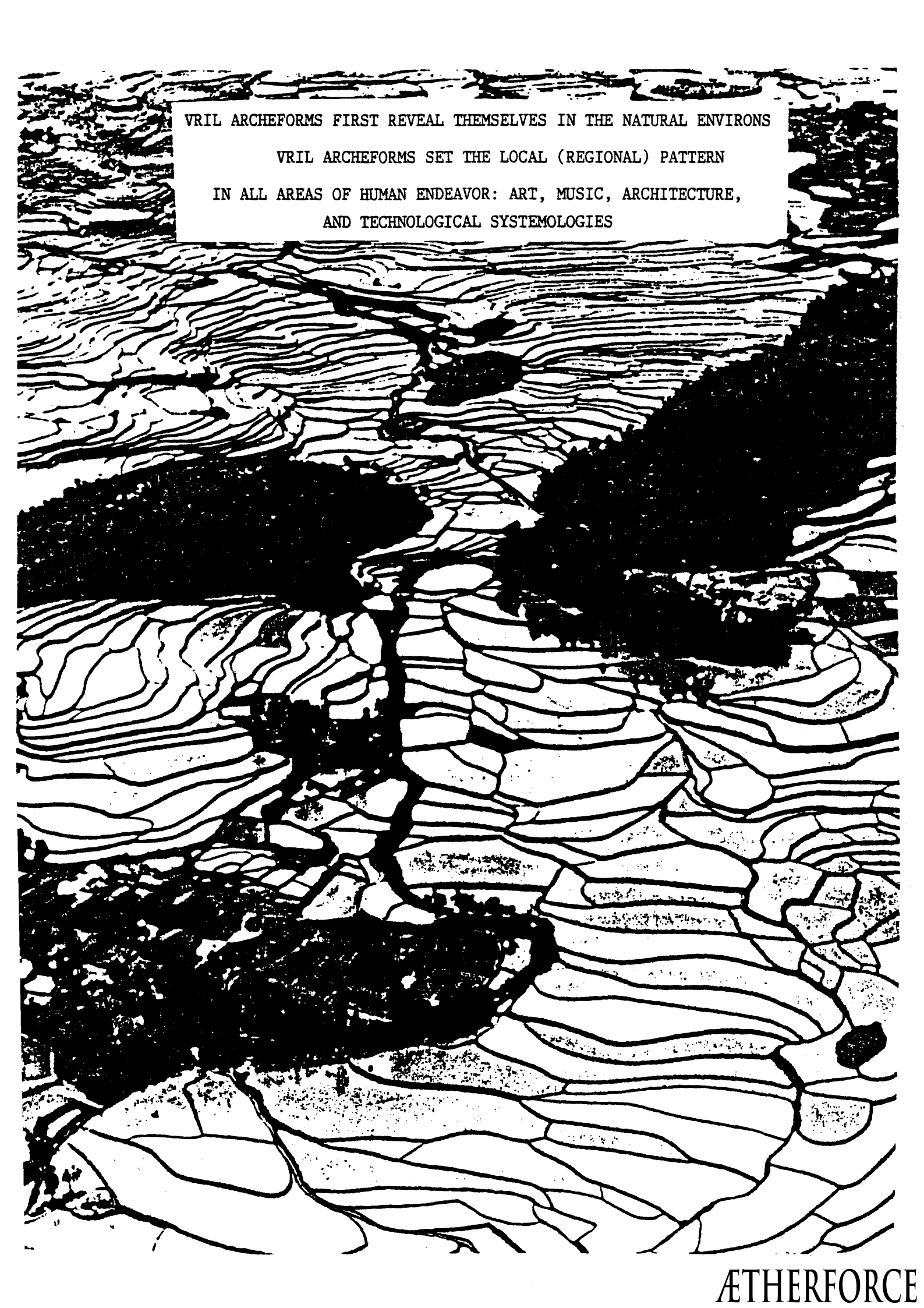


VRIL DENDRITIC ARCHEFORMS EVIDENT IN CRYSTALLIZATIONS

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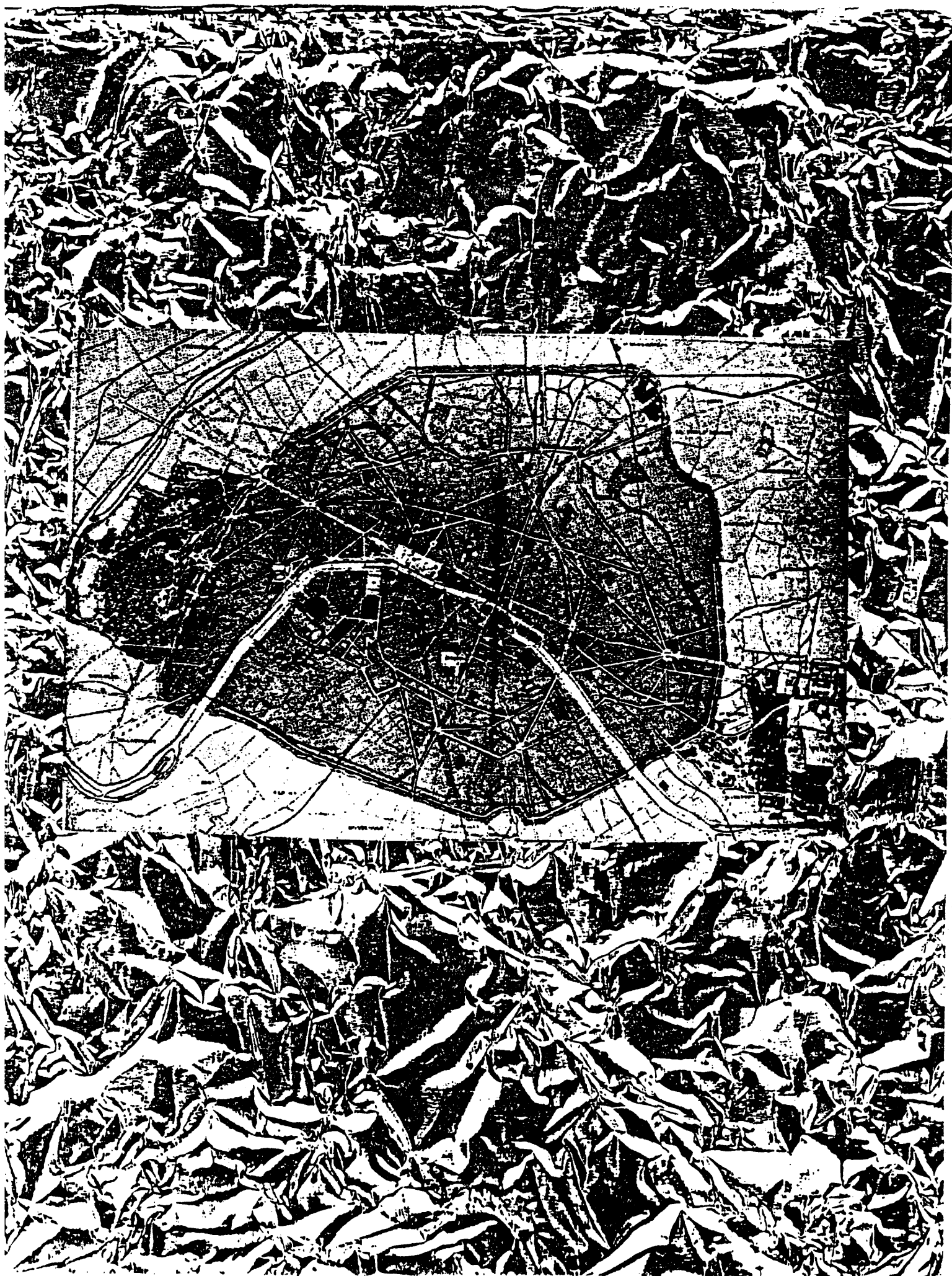


VRIL ARCHEFORMS FIRST REVEAL THEMSELVES IN THE NATURAL ENVIRONS

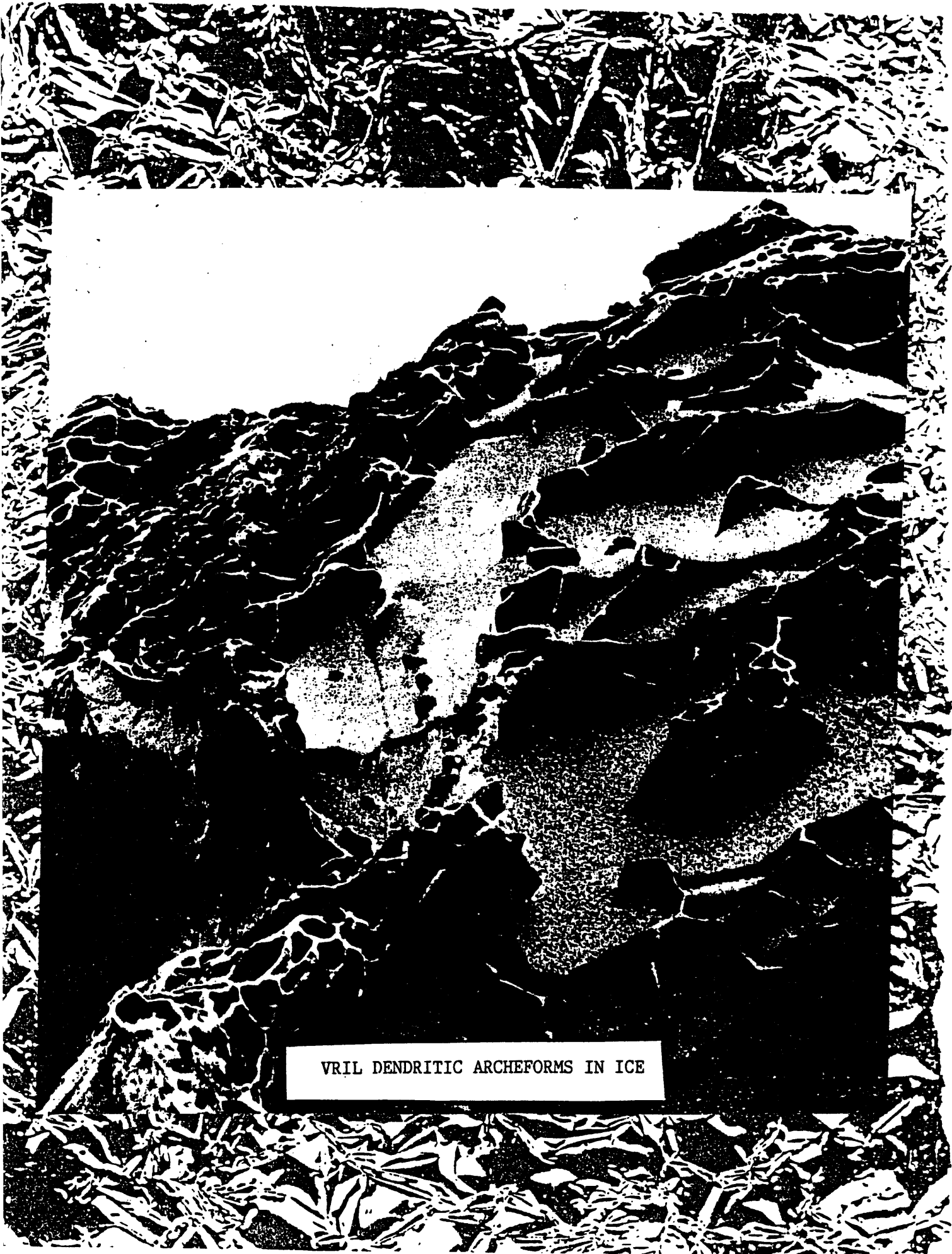
VRIL ARCHEFORMS SET THE LOCAL (REGIONAL) PATTERN

IN ALL AREAS OF HUMAN ENDEAVOR: ART, MUSIC, ARCHITECTURE,
AND TECHNOLOGICAL SYSTEMOLOGIES

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VRIL DENDRITIC ARCHEFORMS IN ICE

VRIL DENDRITIC FORMS CAN BE EXCEEDINGLY DELICATE

VRIL ARCHEFORMS MOULD EVERY MANIFESTATION

IRREGARDLESS OF SPECIES



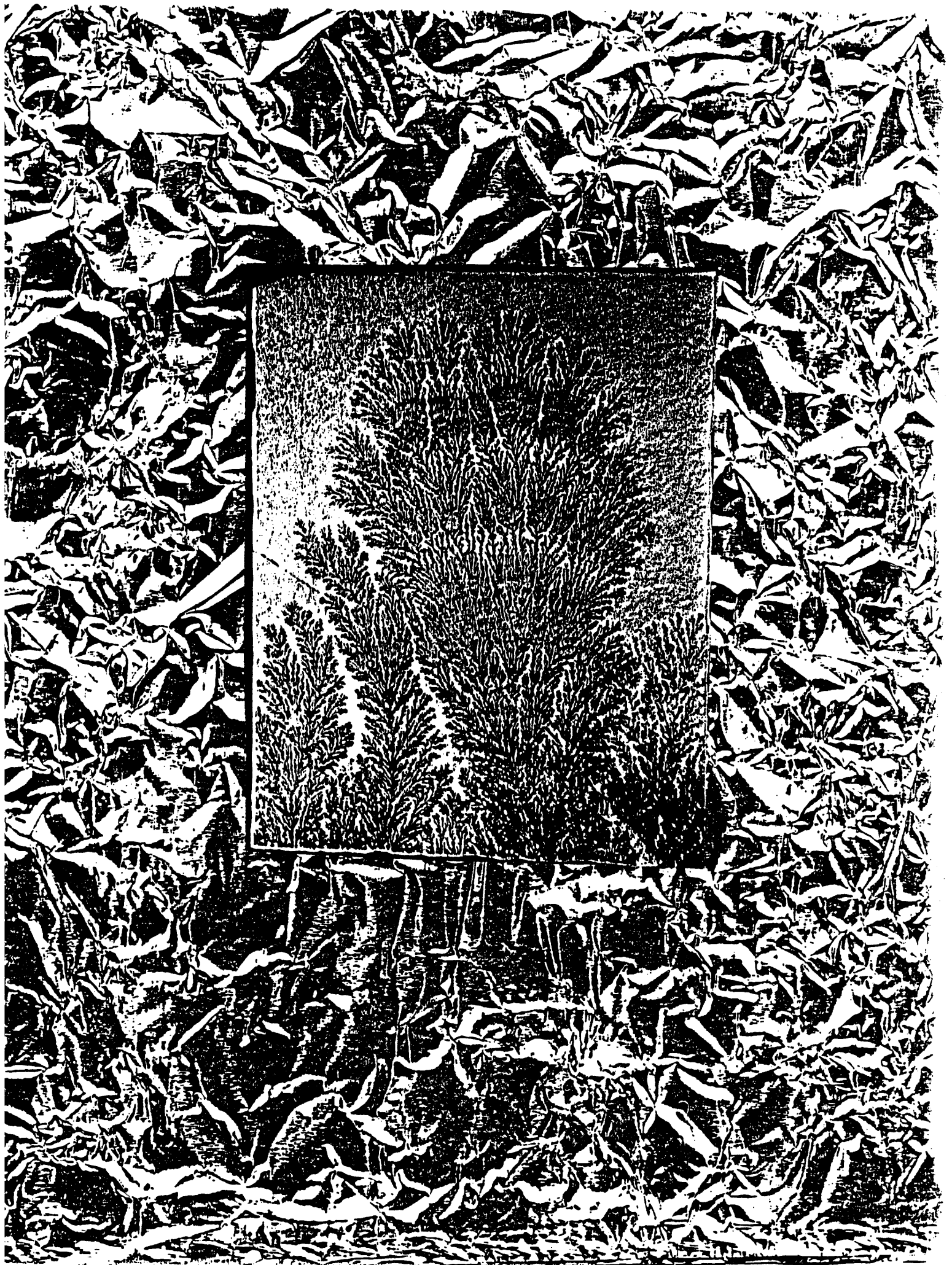
Iron oxide whiskers formed by reaction of pure iron
with oxygen at 400°C. Magnification 8000x.



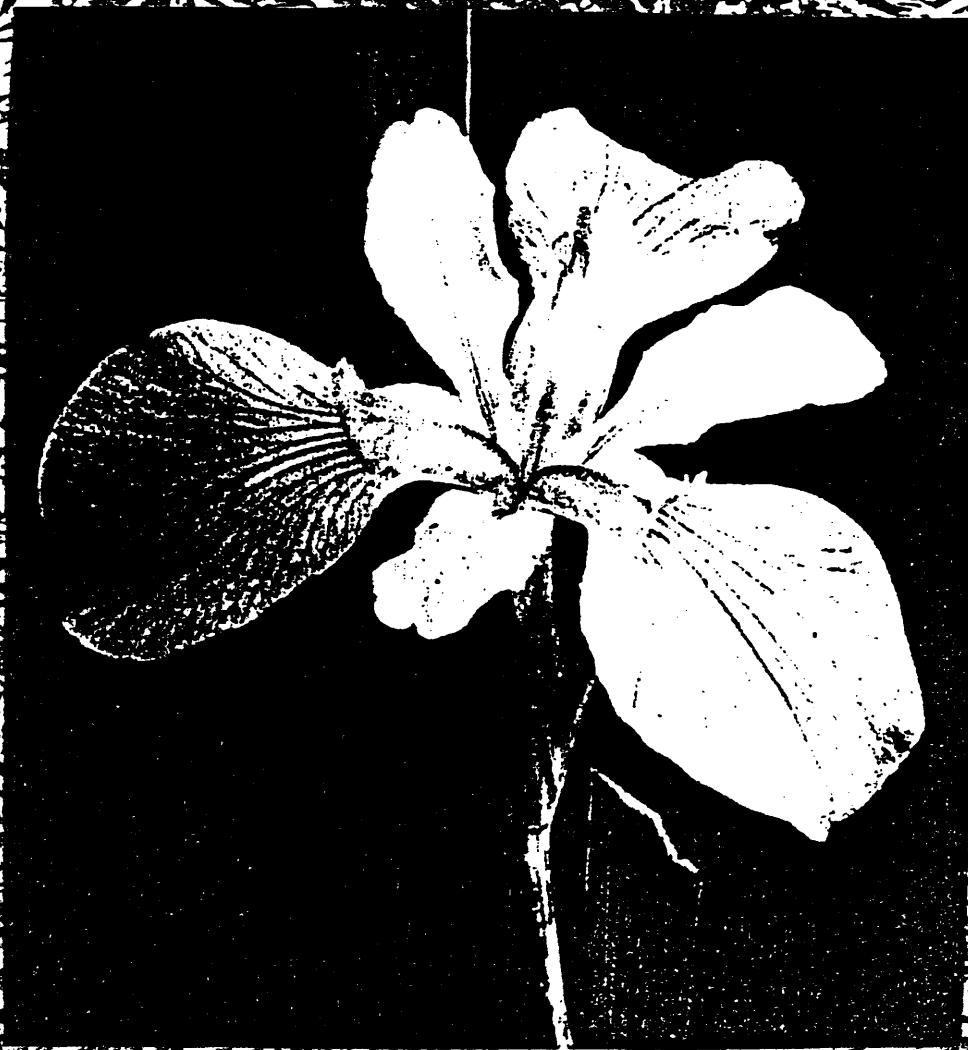
Iron oxide blade-shaped platelets formed by reaction of pure iron with water vapor at 400°C. Magnification 13,125x.



Iron oxide rounded platelets formed by reaction of iron under stress with oxygen at 400°C. Magnification 11,250x.



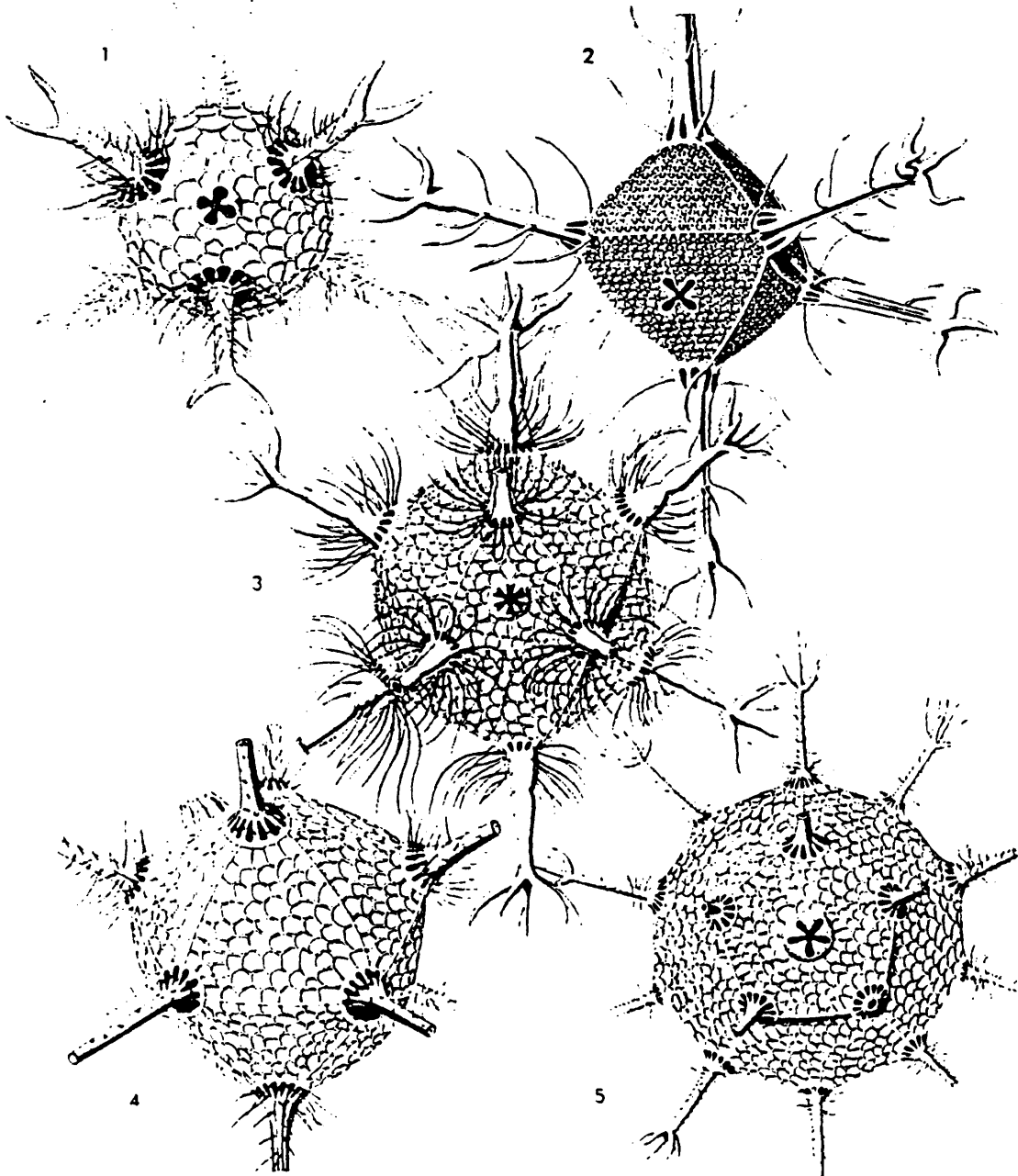
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VRIL DENDRITIC ARCHEFORMS CAN BE EXCEEDINGLY DELICATE

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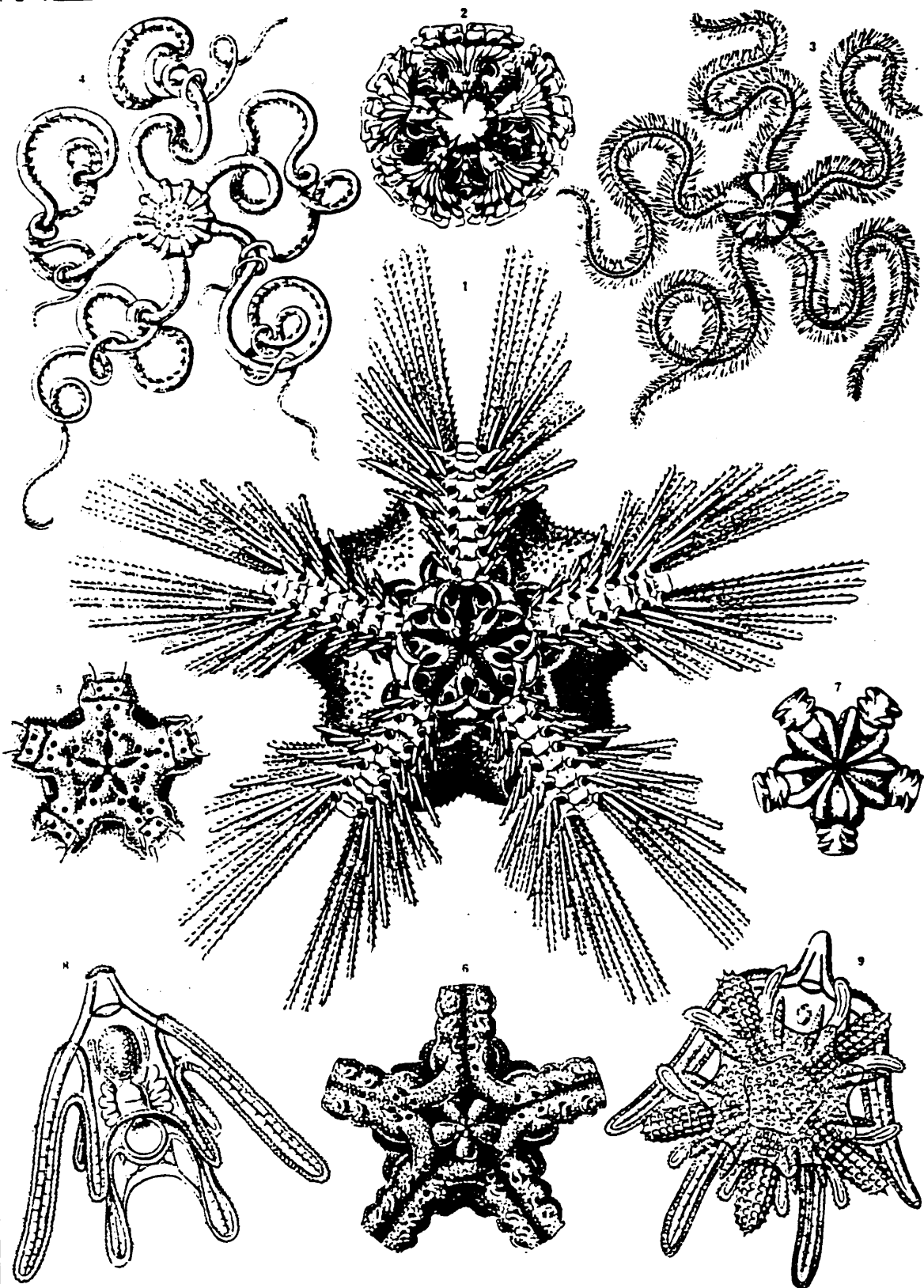
LIVING ORGANISMS REVEAL THE EXACT BLEND BY WHICH THEY ARE ENLIVENED:
WHITE RAY AND BLACK RAY EMANATE FROM THEIR METAPHYSICAL BASES
AND FORM VRIL DENDRITIC STRUCTURES...

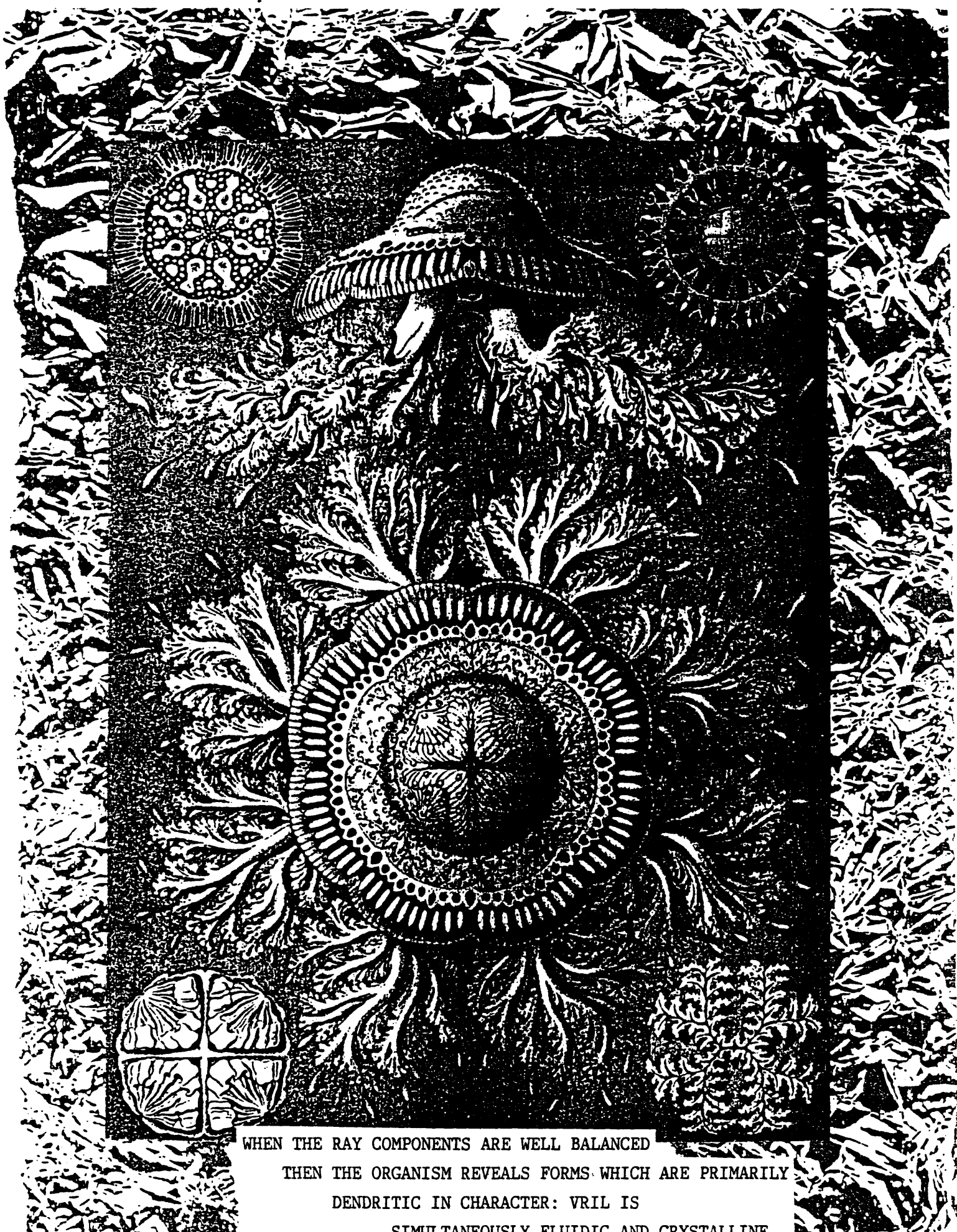


THE EXCESSIVE CRYSTALLINE FORM REVEALS AN EXCESSIVE BLACK RAY COMPONENT

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THESE AQUATIC LIFEFORMS ARE EXCEEDINGLY DENDRITIC
AND LESS CRYSTALLINE IN COMPOSITION

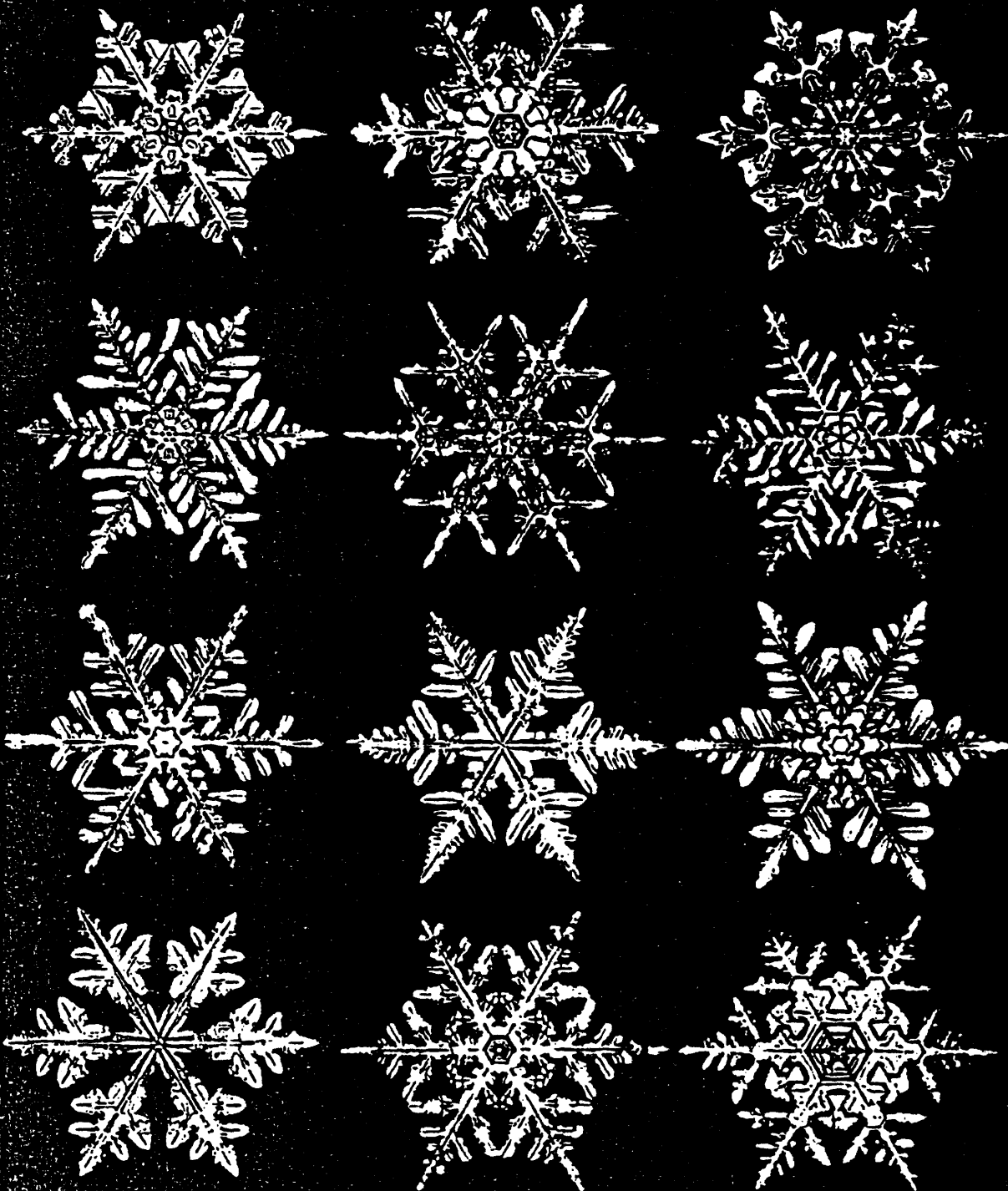




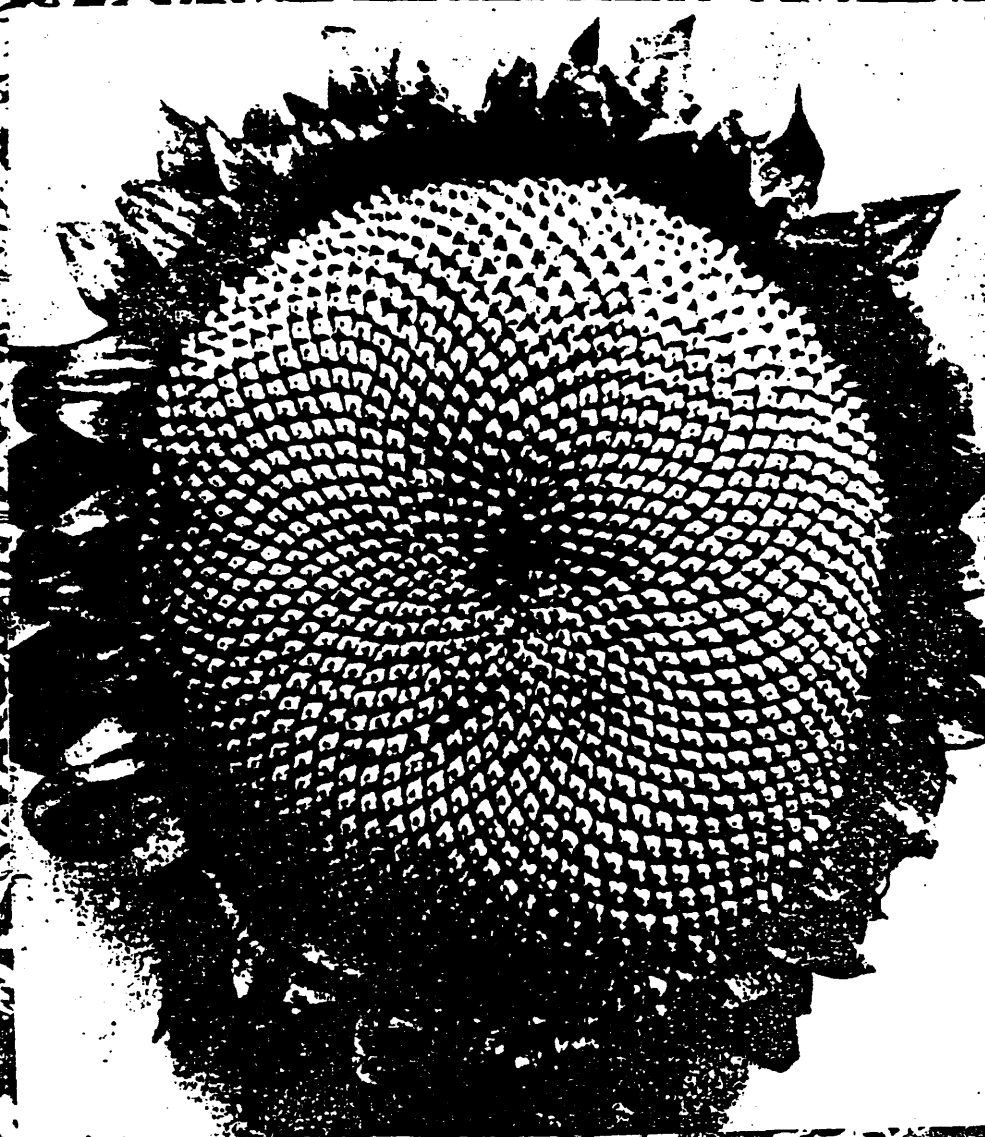
WHEN THE RAY COMPONENTS ARE WELL BALANCED
THEN THE ORGANISM REVEALS FORMS WHICH ARE PRIMARILY
DENDRITIC IN CHARACTER: VRIL IS
SIMULTANEOUSLY FLUIDIC AND CRYSTALLINE

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VRIL ARCHEFORMS REVEAL THEIR ORIGINS AS PRIMARY RAY JUNCTURES
THEY ARE THE LIVING SUBSTANCE WHICH IS MADE
WHEN WHITE RAY AND BLACK RAY CONNECT

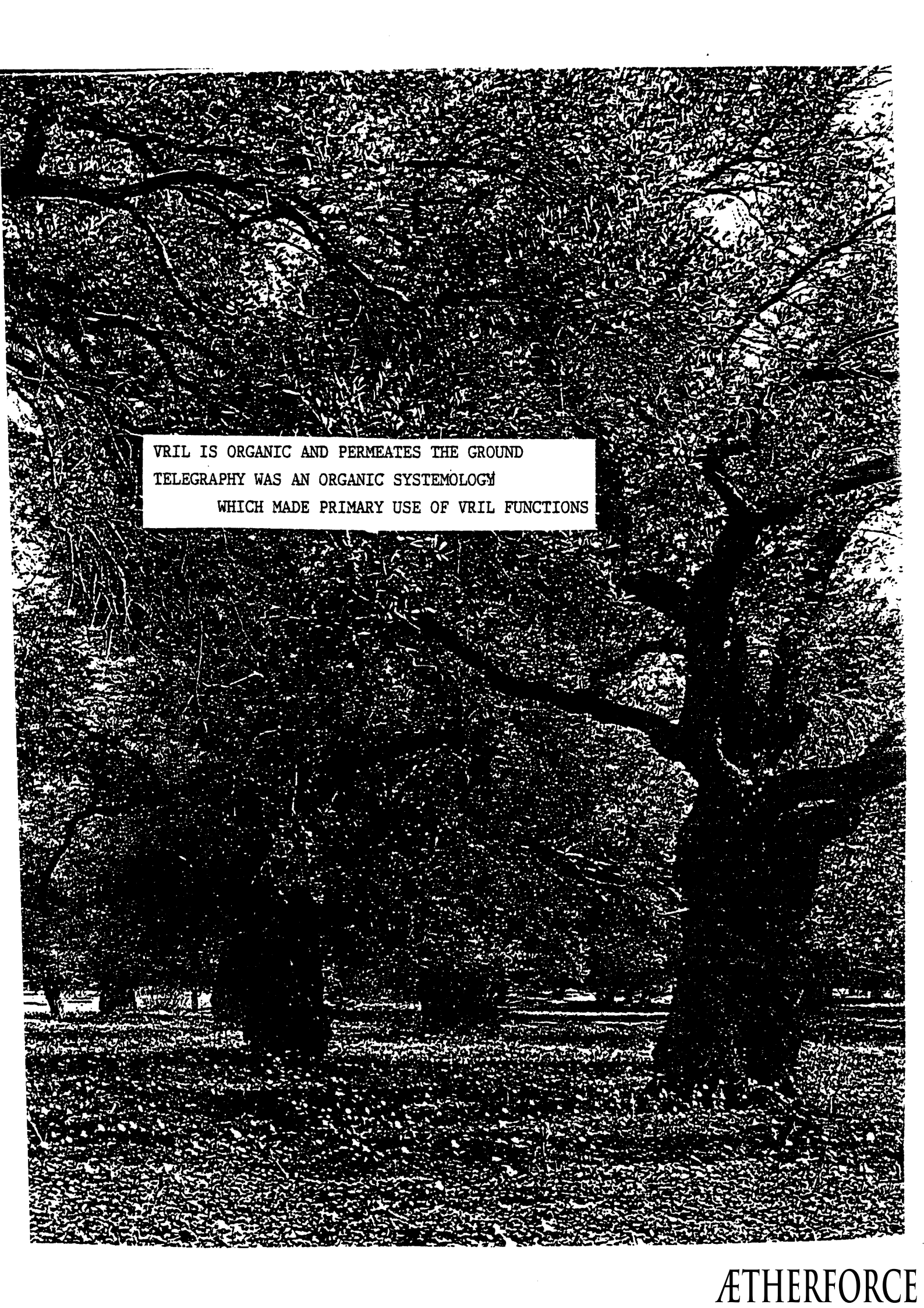


SNOWFLAKES REVEAL THE PREPONDERANCE OF THE BLACKRAY COMPONENT
IN THEIR EXCESSIVE CRYSTALLINITY...AND A RELATIVE ABSENCE
OF THE DENDRITIC FORMS ASSOCIATED WITH THOROUGHLY
LIVING ORGANISMS



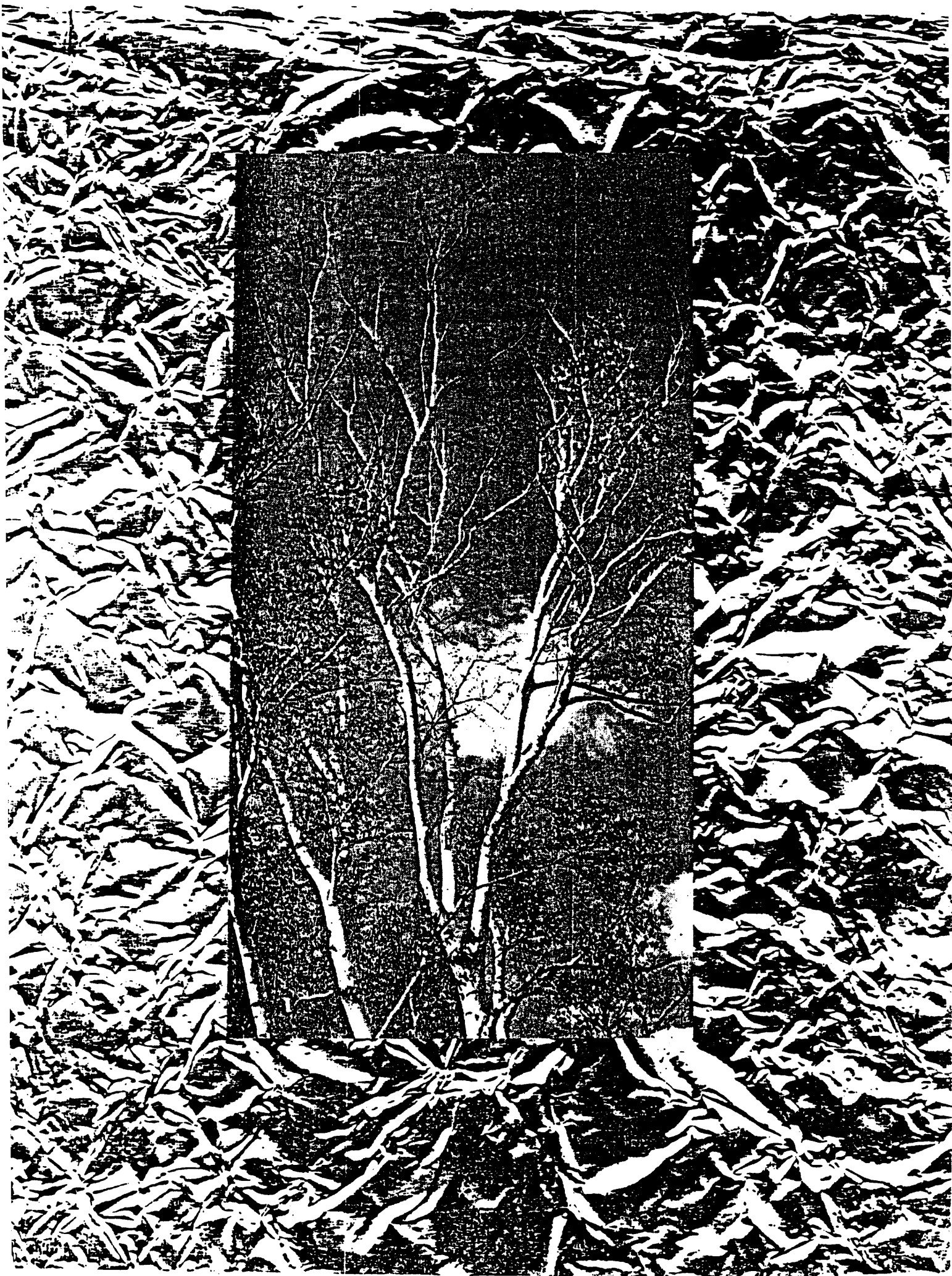
THE SUNFLOWER IS PRIMARILY CRYSTALLINE IN QUALITY

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VRIL IS ORGANIC AND PERMEATES THE GROUND
TELEGRAPHY WAS AN ORGANIC SYSTEMOLOGY
WHICH MADE PRIMARY USE OF VRIL FUNCTIONS

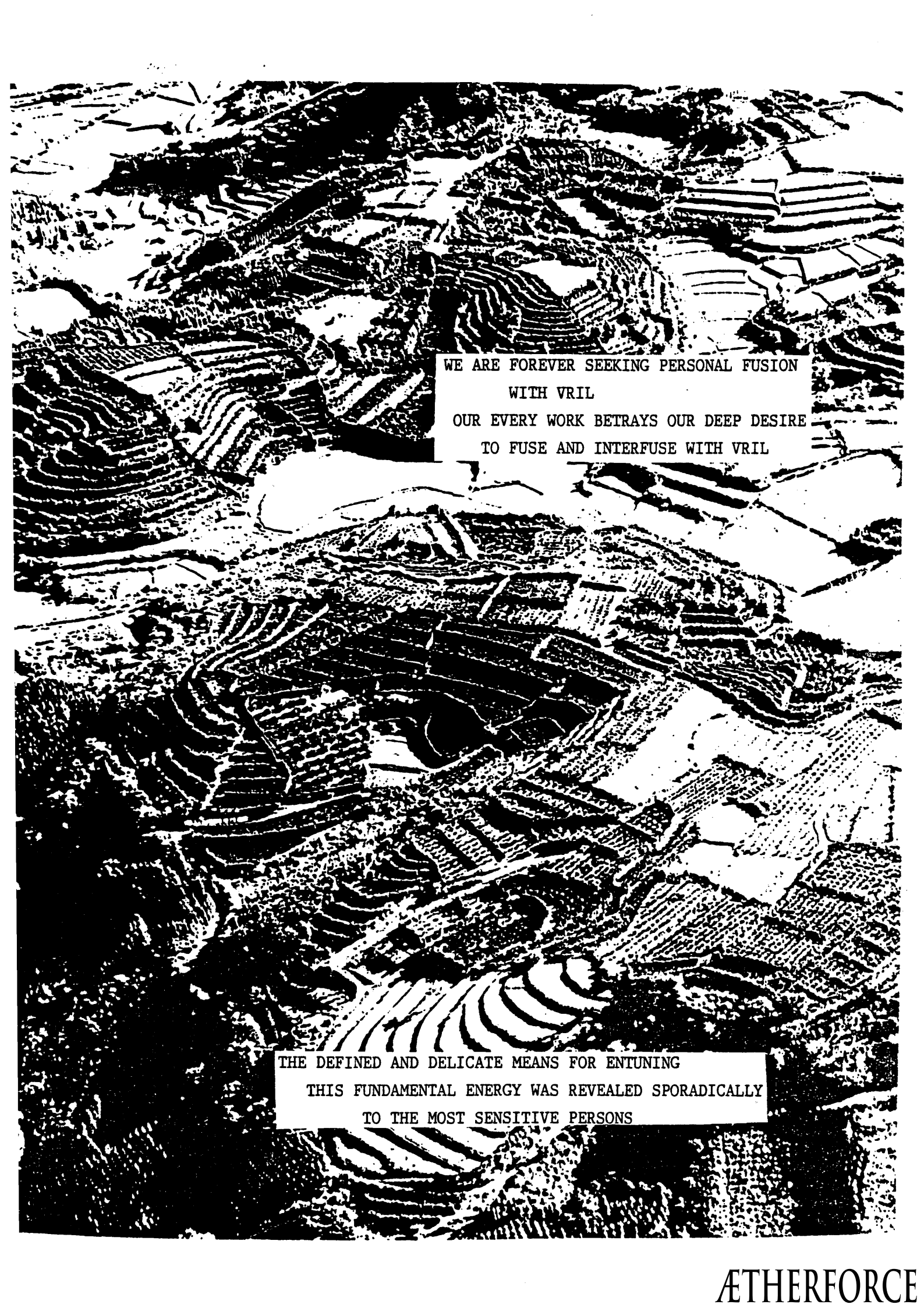
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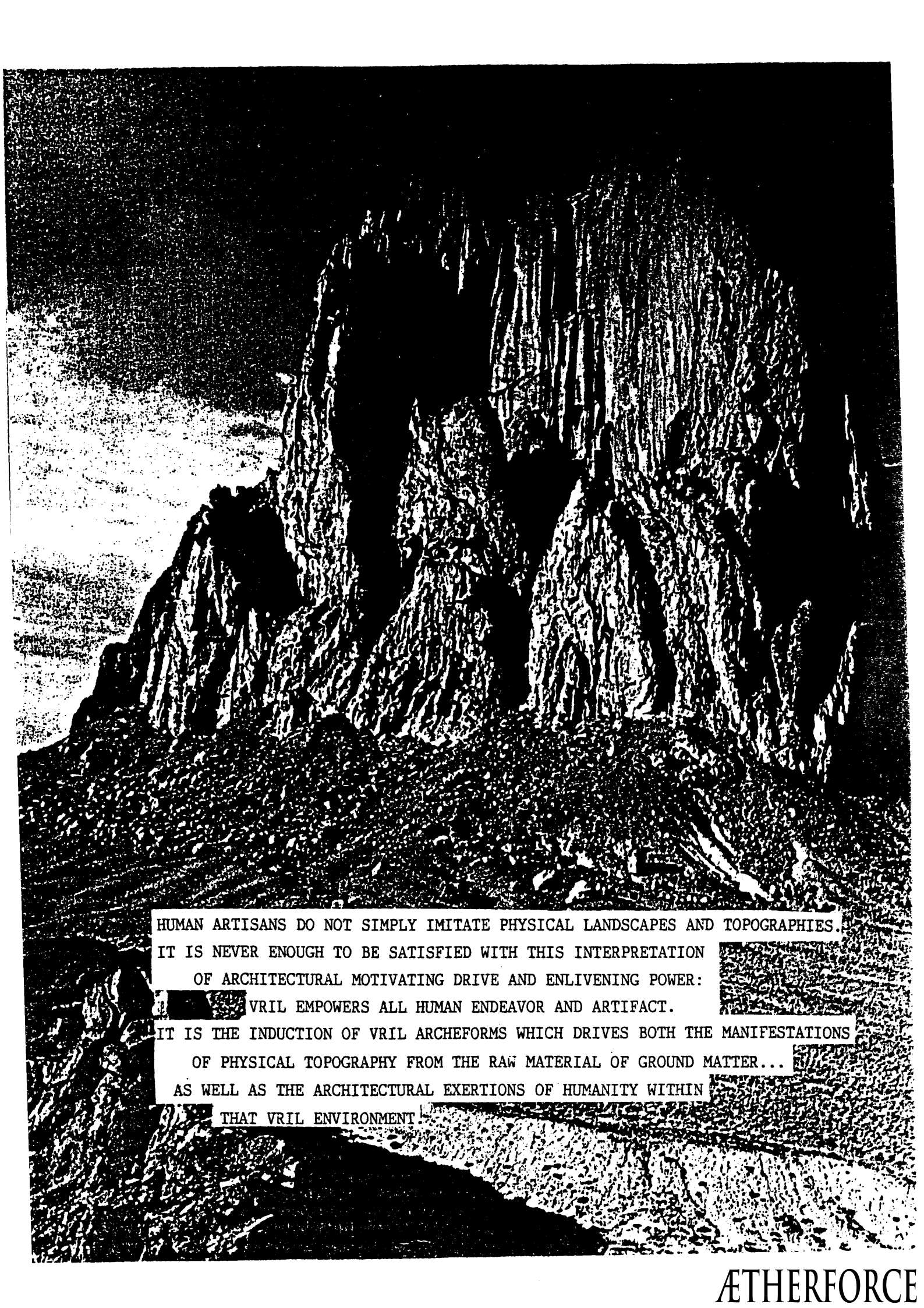
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WE ARE FOREVER SEEKING PERSONAL FUSION
WITH VRIL
OUR EVERY WORK BETRAYS OUR DEEP DESIRE
TO FUSE AND INTERFUSE WITH VRIL

THE DEFINED AND DELICATE MEANS FOR ENTUNING
THIS FUNDAMENTAL ENERGY WAS REVEALED SPORADICALLY
TO THE MOST SENSITIVE PERSONS

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HUMAN ARTISANS DO NOT SIMPLY IMITATE PHYSICAL LANDSCAPES AND TOPOGRAPHIES.

IT IS NEVER ENOUGH TO BE SATISFIED WITH THIS INTERPRETATION
OF ARCHITECTURAL MOTIVATING DRIVE AND ENLIVENING POWER:

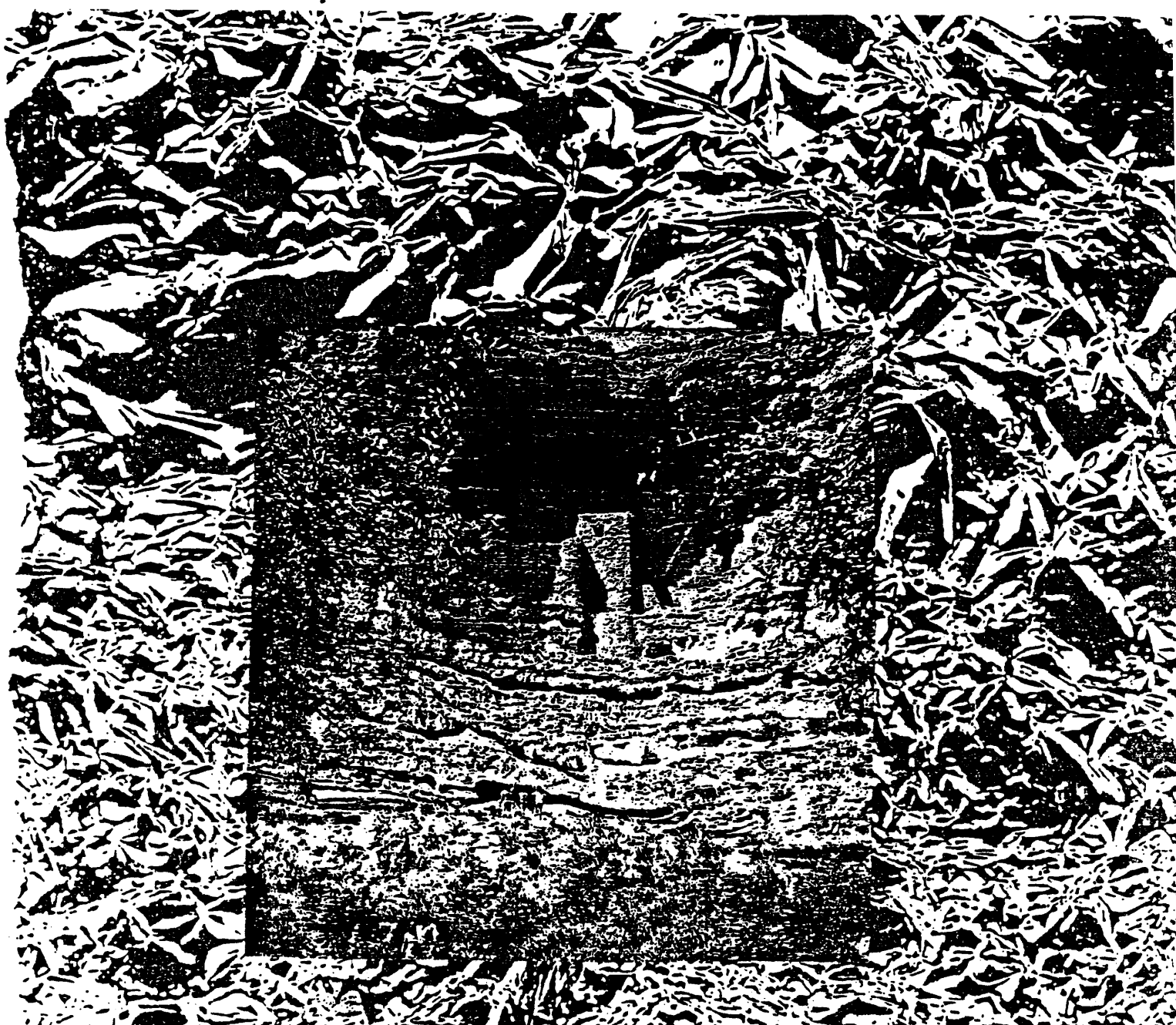
VRIL EMPOWERS ALL HUMAN ENDEAVOR AND ARTIFACT.

IT IS THE INDUCTION OF VRIL ARCHEFORMS WHICH DRIVES BOTH THE MANIFESTATIONS
OF PHYSICAL TOPOGRAPHY FROM THE RAW MATERIAL OF GROUND MATTER...

AS WELL AS THE ARCHITECTURAL EXERTIONS OF HUMANITY WITHIN

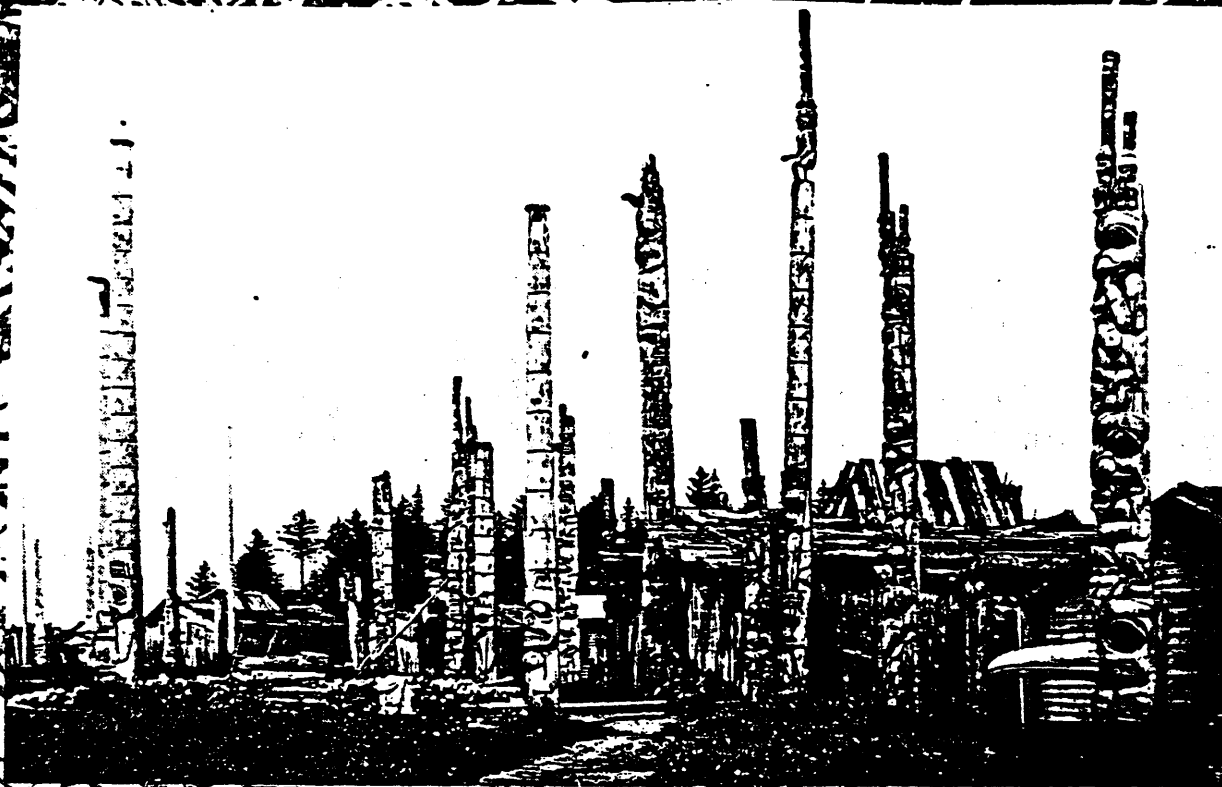
THAT VRIL ENVIRONMENT

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VRIL REVEALS FORMS WHICH EMERGE FROM
THEIR GROUND OF ORIGIN

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AMERICA NECESSARILY BECAME THE CENTRE FOR ALL TELEGRAPHIC AND TELEPHONIC SYSTEMOLOGIES.

REGIONS OF GROUND IN AMERICA WERE NECESSARILY DRIVEN TO GENERATE AND SUPPORT
TELEGRAPHIC SYSTEMOLOGIES WHICH SPANNED THE CONTINENT.

IN ADDITION WE SEE DIRECT EVIDENCE THAT THE VRIL VIRTUAL STRUCTURES IN AMERICA
DROVE THE DEVELOPMENT OF OVERGROUND COMMUNICATIONS FOR A TIME...

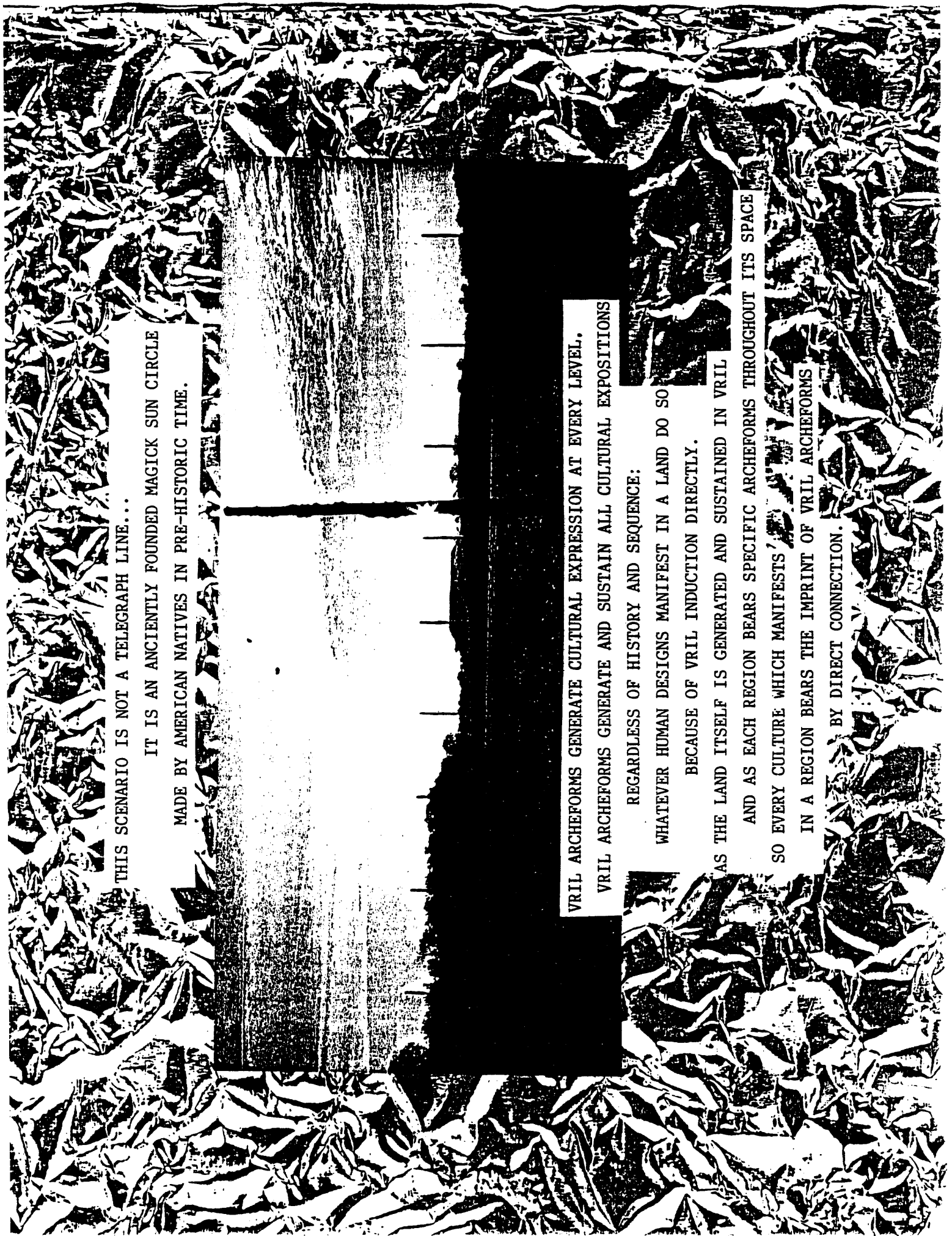
A TRACE MEMORY OF THE LAST RESONANT TUNERS

TO FILL THE LAND...

AND THEN GUIDED THE VISIONARIES INTO THE SUBTERRANEAN

(FUNDAMENTAL) VRIL DENDRITIC CONNECTIONS TO GENERATE

GROUND WIRELESS SYSTEMS.



THIS SCENARIO IS NOT A TELEGRAPH LINE...

IT IS AN ANCIENTLY FOUNDED MAGICK SUN CIRCLE
MADE BY AMERICAN NATIVES IN PRE-HISTORIC TIME.

VRIL ARCHEFORMS GENERATE CULTURAL EXPRESSION AT EVERY LEVEL.
VRIL ARCHEFORMS GENERATE AND SUSTAIN ALL CULTURAL EXPOSITIONS

REGARDLESS OF HISTORY AND SEQUENCE:

WHATEVER HUMAN DESIGNS MANIFEST IN A LAND DO SO

BECAUSE OF VRIL INDUCTION DIRECTLY.

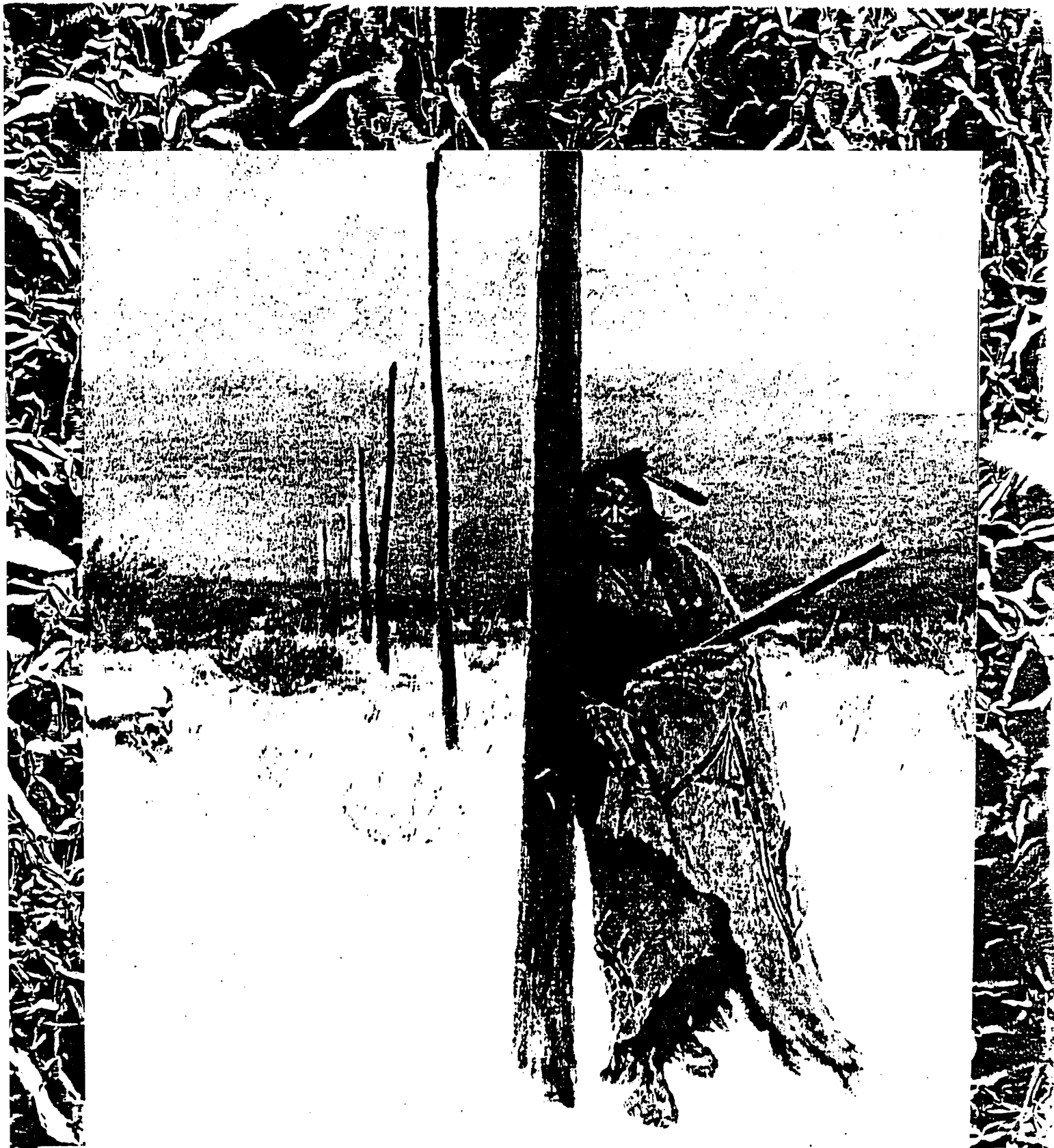
AS THE LAND ITSELF IS GENERATED AND SUSTAINED IN VRIL

AND AS EACH REGION BEARS SPECIFIC ARCHEFORMS THROUGHOUT ITS SPACE

SO EVERY CULTURE WHICH MANIFESTS

IN A REGION BEARS THE IMPRINT OF VRIL ARCHEFORMS

BY DIRECT CONNECTION.

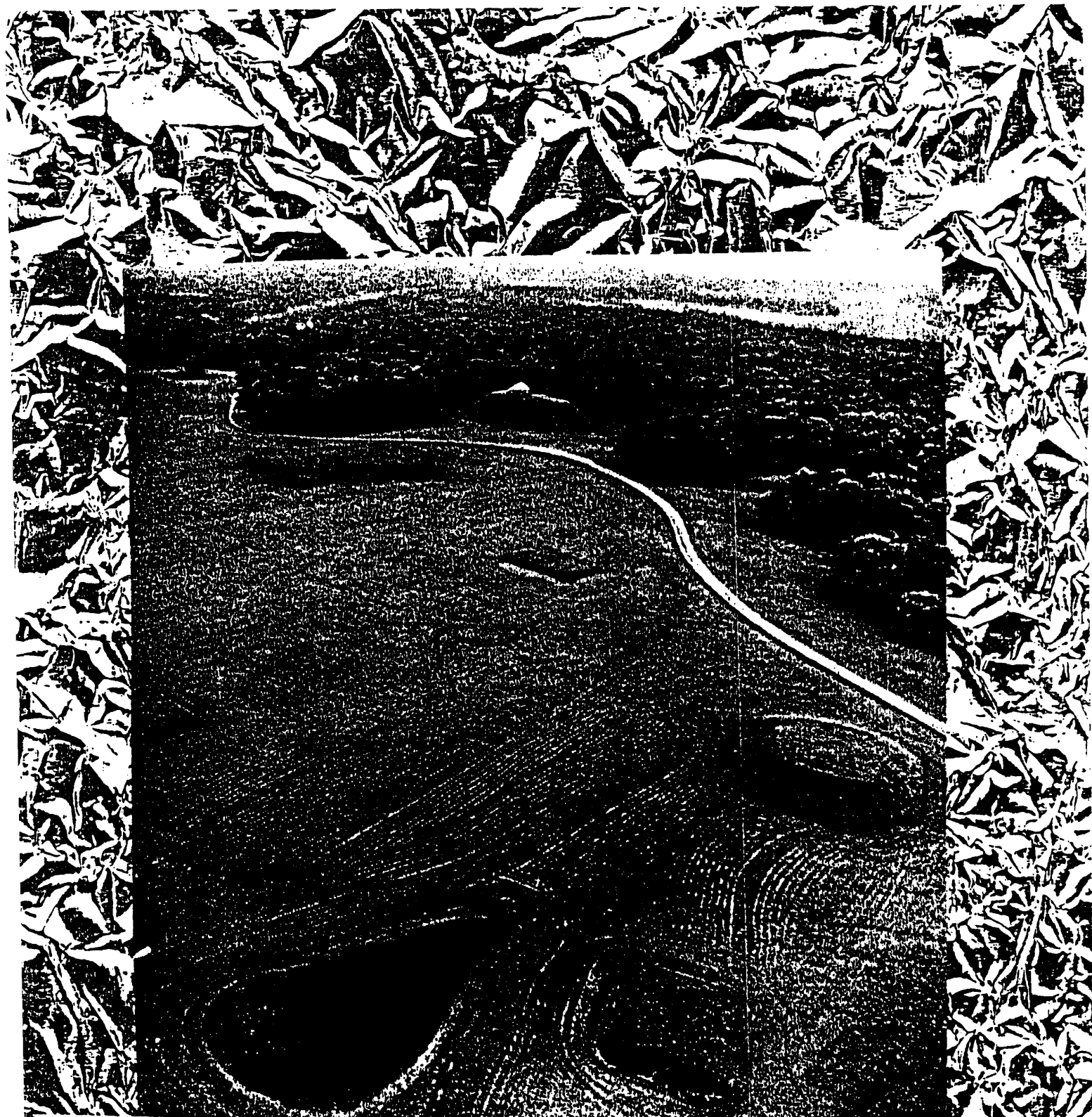


WITH TELEGRAPH AERIAL POLES WE SEE THE SEPARATION OF VRIL GROUND THREADS
FROM THEIR NATURAL AND INTENDED HABITAT...

THE AERIAL POLE SYSTEM PROVED TO CAUSE SERIOUS SCHISMS IN VRIL POWER
ACROSS A REGION OF GROUND.

AMERICAN NATIVES SENSED THIS DISTORTION IMMEDIATELY...

AND PROMPTLY WENT ABOUT TEARING DOWN EVERY LENGTH OF WIRE THEY COULD.



THE AMERICAN NATIVES MAY HAVE ALTERNATELY SENSED THE DISRUPTIVE EFFECTS OF TELEGRAPHY

THROUGHOUT THE WILDS ACROSS WHICH THEY CUT SEARING PATHS...

SENSING THE ANTAGONISM WITH WHICH IMPRESSED SIGNALS QUENCHED VRIL.

THE OTHER POSSIBLE REASON FOR THEIR LATER DESTRUCTION OF THE TALKING WIRE

MAY HAVE BEEN TO DESTROY A FORM OF MAGICK: THE ENCROACHMENT OF THE HUGE

MAGICKAL CIRCLE ABOUT THEIR HUNTING GROUNDS...A PERCEPTION BASED ENTIRELY

UPON THEIR OWN USE OF SIMILAR (VRIL) TECHNOLOGIES.

VRIL ARCHEFORMS IMPRINT THEIR PRESENCE:

AS CONSCIOUS DISTRIBUTION

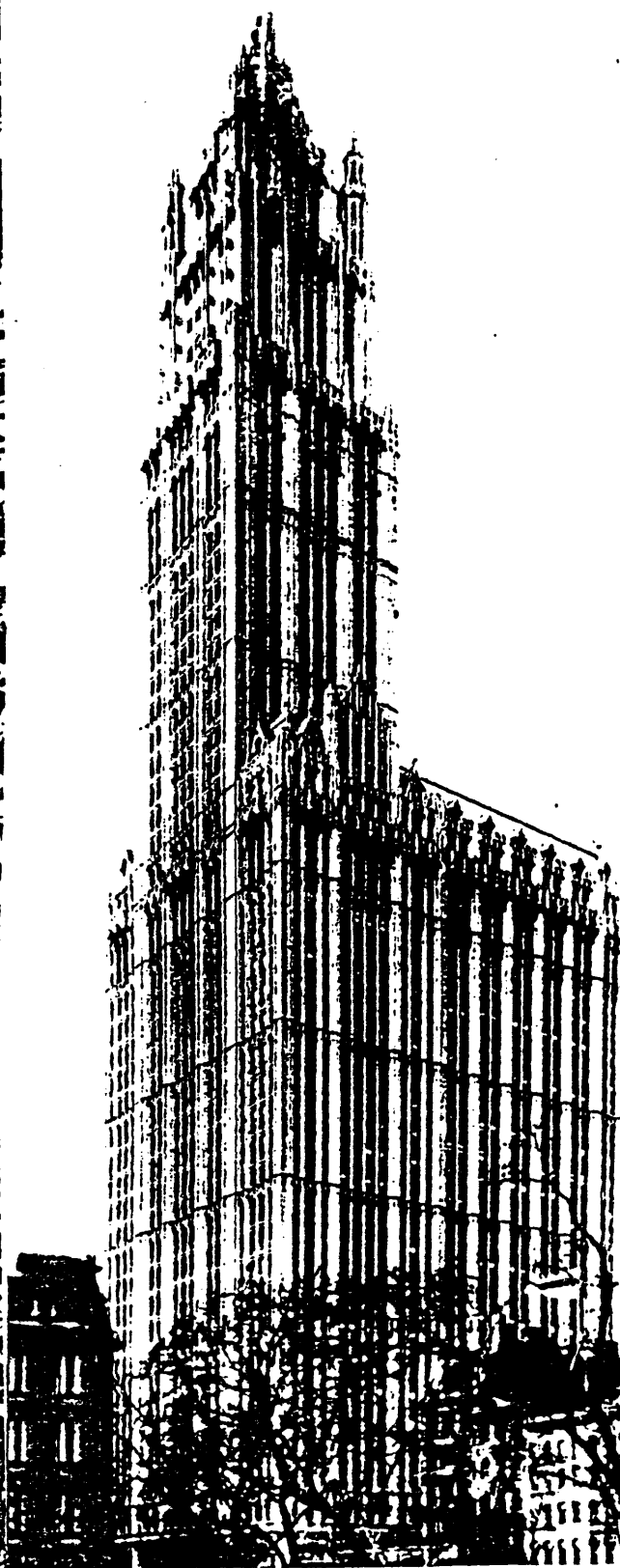
AND DESIGN CULTURE.

VRIL ARCHEFORMS GENERATE AND SUSTAIN REGIONS

AND ALL HUMAN ENDEAVOR:

IMPRINTING MINDS WITH THEIR PERMEATING PRESENCE.

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NORTH AMERICAN ENGINEERS WERE DRIVEN TO DEVELOP SKYSCRAPERS
THROUGH THE VRIL VIRTUAL STRUCTURES WHICH PERMEATED THE REGION.

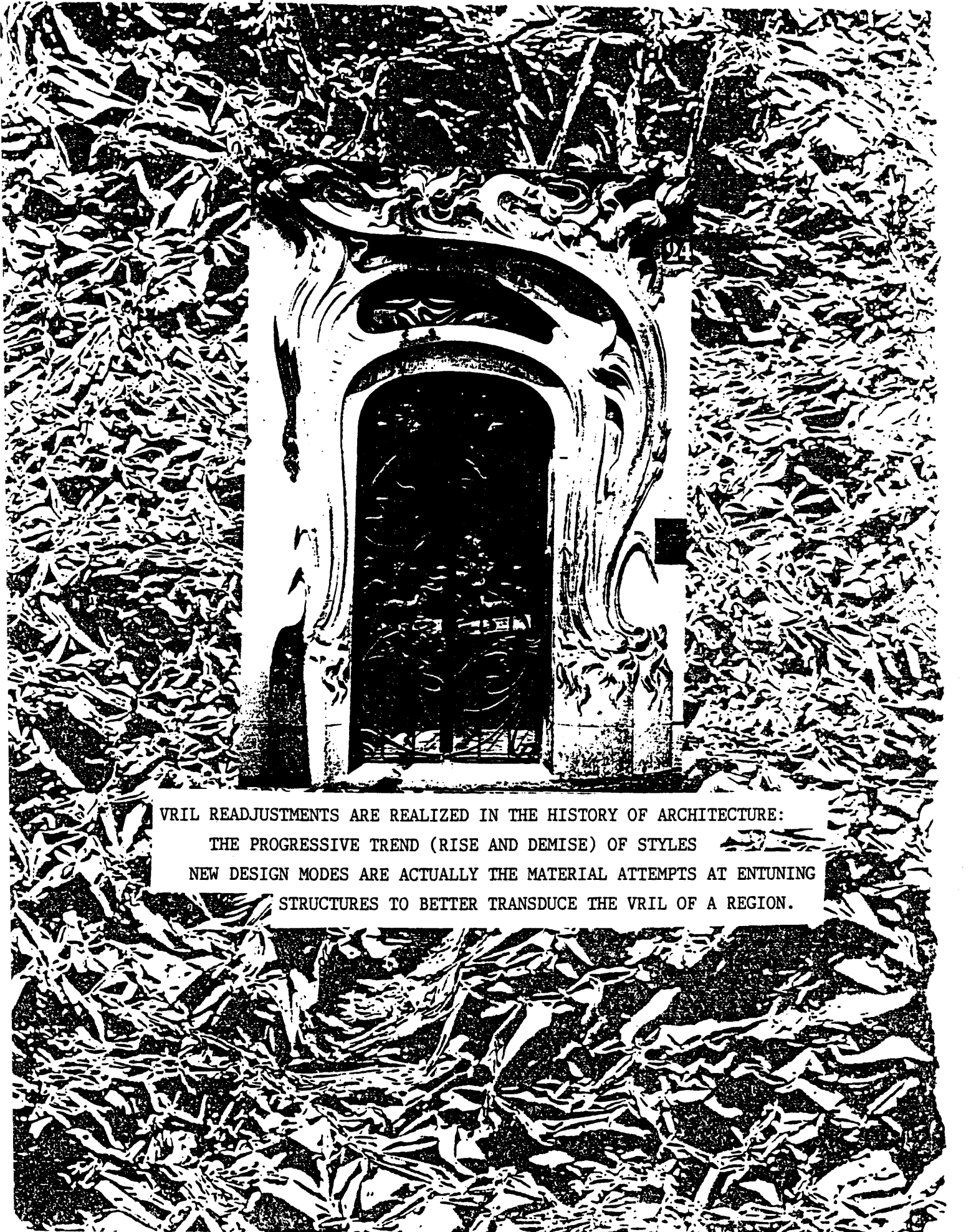
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VRIL STRUCTURES DIFFER IN EACH REGION.

ARCHITECTURE AND LOCAL CULTURE ARE

PRODUCTS NOT OF CULTURAL IMPORTATIONS
BUT OF VRIL INDUCTIONS

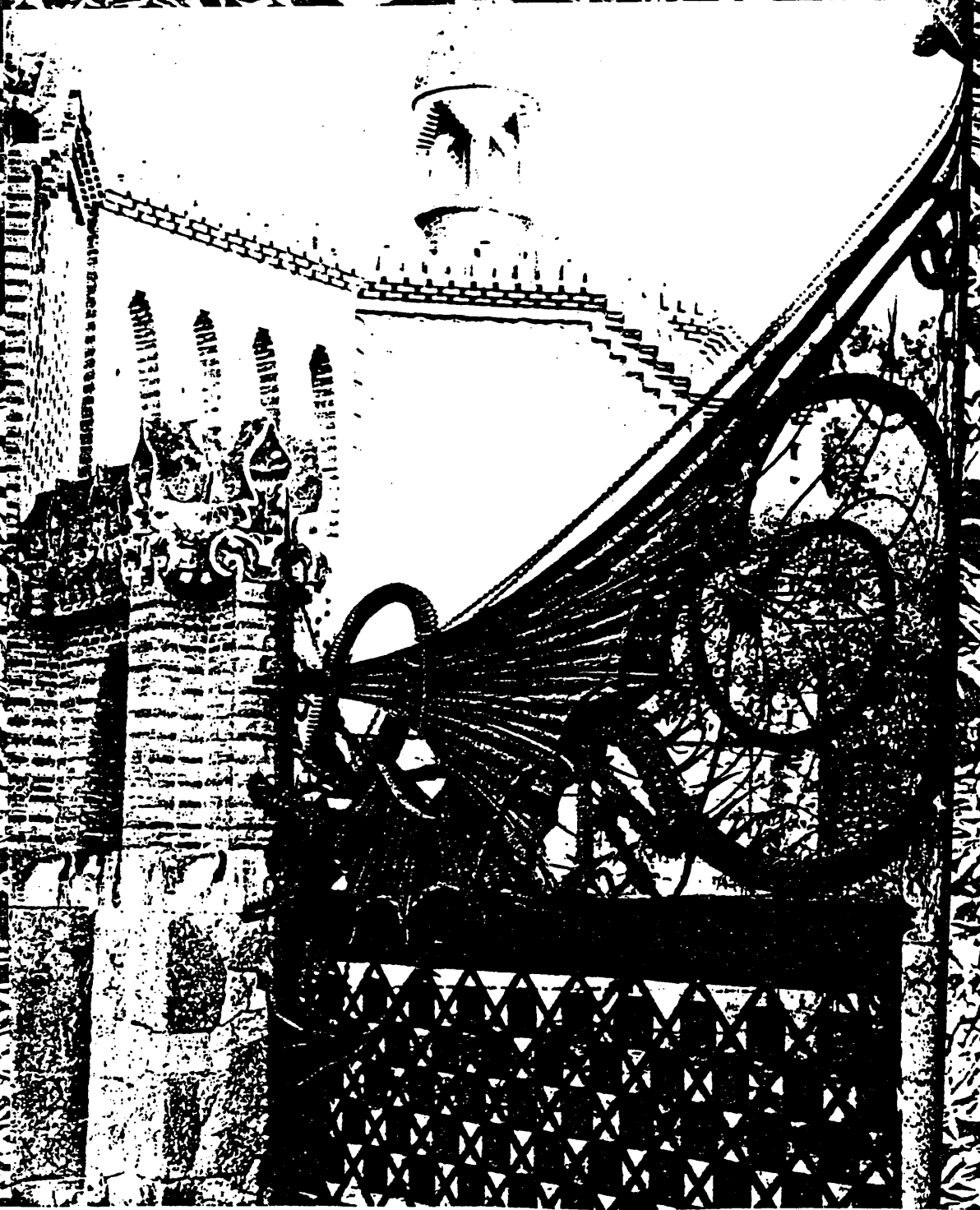


VRIL READJUSTMENTS ARE REALIZED IN THE HISTORY OF ARCHITECTURE:

THE PROGRESSIVE TREND (RISE AND DEMISE) OF STYLES

NEW DESIGN MODES ARE ACTUALLY THE MATERIAL ATTEMPTS AT ENTUNING
STRUCTURES TO BETTER TRANSDUCE THE VRIL OF A REGION.

ÆTHERFORCE



ASSUMPTIONS WERE THUS MADE THAT STRUCTURES (MADE TO RESONATE WITH VRIL ARCHEFORMS)

COULD DO NOTHING MORE THAN
OCCUPY SPECIFIC SITES AND ACT

AS RESERVOIRS, ACCUMULATORS, AND TRANSDUCERS

IN STRICTLY MASSIVE AND FIXED MODES OF OPERATION:

THIS WAS THE MIND OF THE CATHEDRAL BUILDERS.

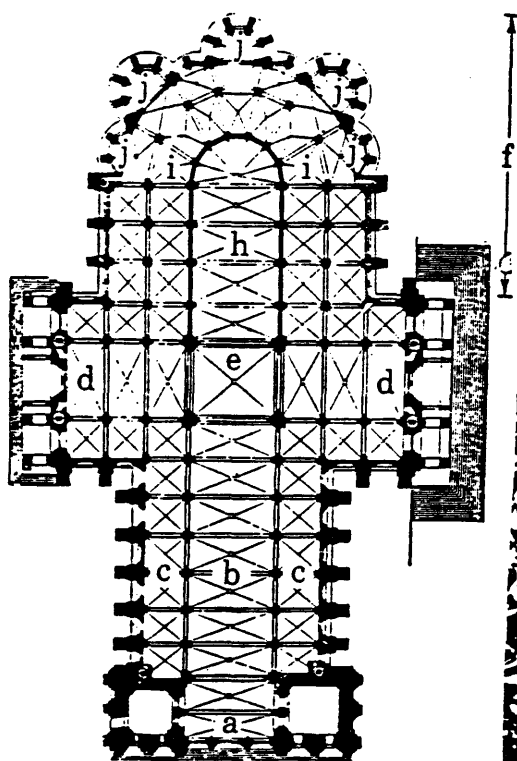


VRIL STRUCTURES ENHANCE THE LOCAL VRIL ARCHEFORM
(AND BY DOING SO) ENHANCE CONSCIOUSNESS
IN THE REGION

STRUCTURES SO MADE MODIFY THE POTENTIAL VRIL
ARCHEFORMS



8-35 NOTRE DAME. Laon. Nave. 1160-1205. (Archives Photographiques)



SOLID STRUCTURES ENHOST AND EXTEND THE VRIL STRUCTURES.
COMPONENTS WHICH MAKE THEIR FORM COHESIVE FUNCTION
IN THE VRIL POTENCY
EACH ELEMENT SERVES A SPECIFIC FUNCTION FOR VRIL
THE NET EFFECT RAISES REGIONAL CONSCIOUSNESS



WE FIND THE DEFINITE PATTERN OF DIVERGENCES FROM THE ESSENTIAL
IN EVERY HUMAN ENDEAVOR, CULTURAL ADVANCEMENT,
AND TECHNOLOGICAL GENRE



HUMANITY EVER STRAYS FROM THE PURE VRIL PATHWAY
WHICH IS STRUCTURED AND LAID BEFORE
OUR FALTERING STEPS



STRUCTURES WHICH PURELY SERVE THE UTILITARIAN NEEDS OF HUMANITY
NEGLECT TO FULFILL THE VRIL RESONANCES IN THE GROUND
FROM WHICH THEY EMERGE AND IN WHICH THEY ARE ROOTED

ÆTHERFORCE



THE FUNCTIONS OF STRUCTURES ARE MANY.

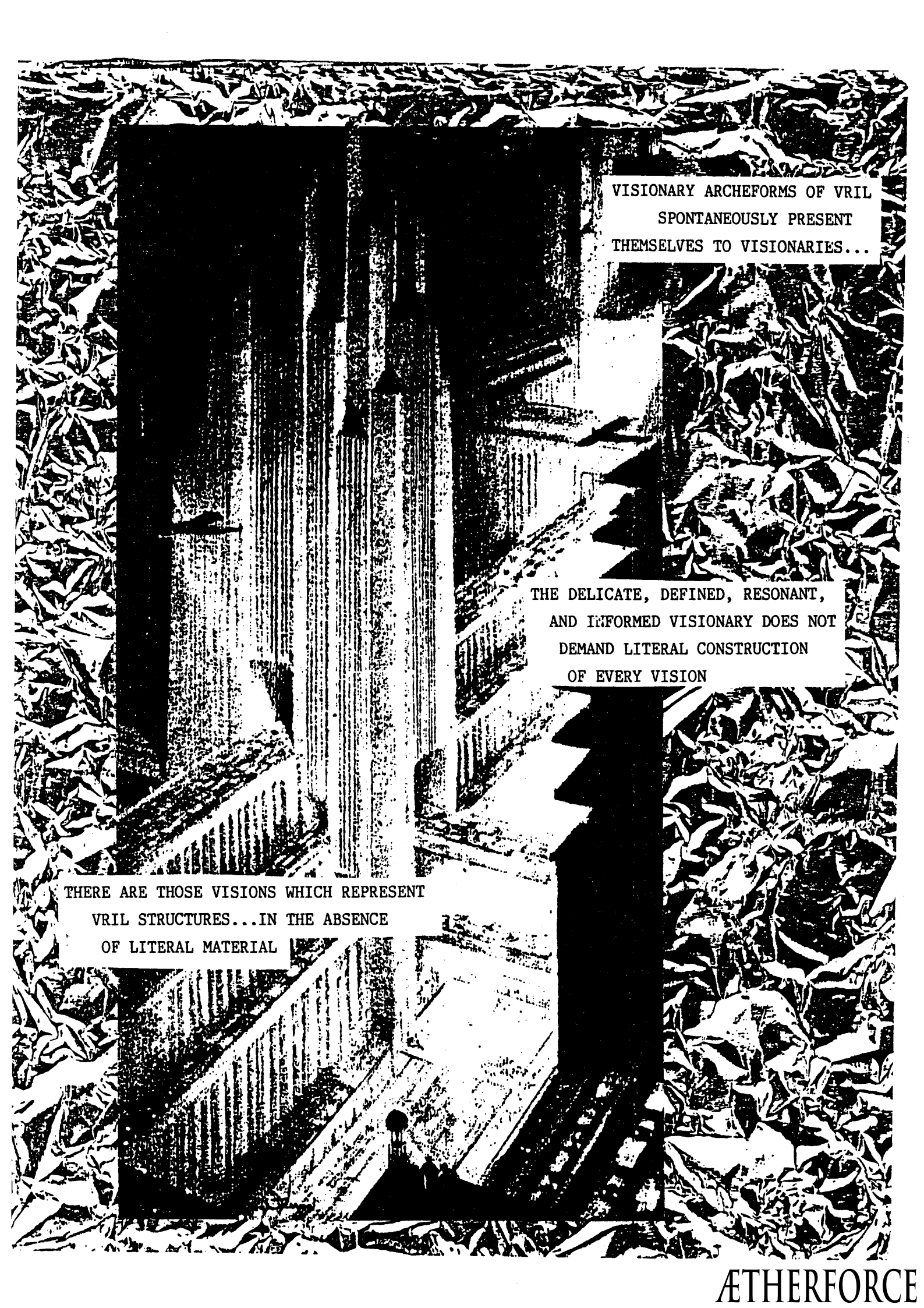
THE MYSTERY OF THE CATHEDRALS AND TEMPLES IS NOT A SIMPLE ONE
TO DEFINE AND SPECIFY IN ORDINARY ARCHITECTURAL TERMS.

STRUCTURES WHEREIN CONSCIOUSNESS IS BOTH GENERATED AND TRANSFORMED

DO NOT FIND THEIR EXPLANATION OR DEFINITION AMONG THE TEXTS

OF THOSE WHO BUILD FOR PURELY UTILITARIAN PURPOSE

ÆTHERFORCE

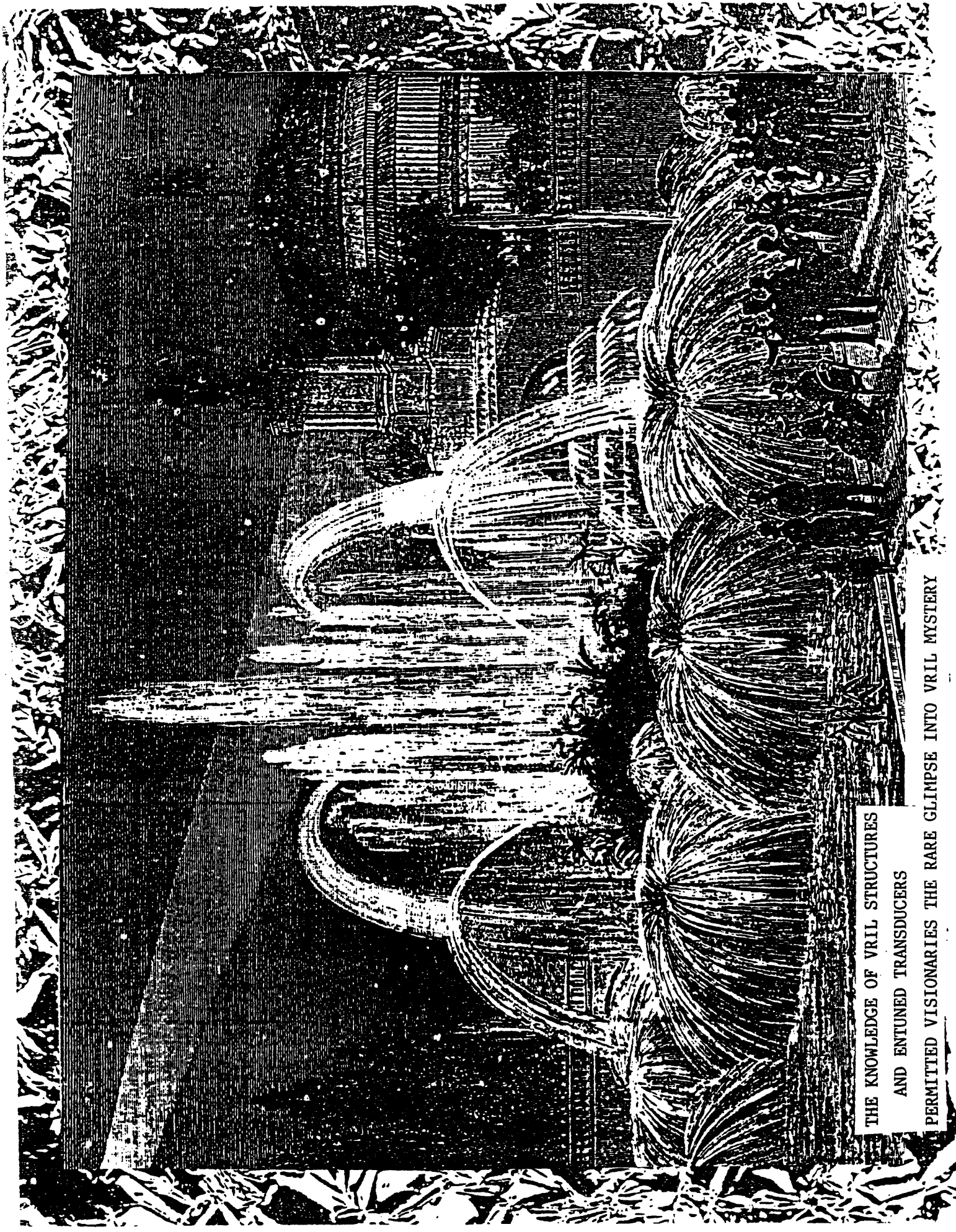


VISIONARY ARCHEFORMS OF VRIL
SPONTANEOUSLY PRESENT
THEMSELVES TO VISIONARIES...

THE DELICATE, DEFINED, RESONANT,
AND INFORMED VISIONARY DOES NOT
DEMAND LITERAL CONSTRUCTION
OF EVERY VISION

THERE ARE THOSE VISIONS WHICH REPRESENT
VRIL STRUCTURES...IN THE ABSENCE
OF LITERAL MATERIAL

ÆTHERFORCE



THE KNOWLEDGE OF VRIL STRUCTURES
AND ENTUNED TRANSDUCERS
PERMITTED VISIONARIES THE RARE GLIMPSE INTO VRIL MYSTERY

SOLID STRUCTURES ARE POWERFUL FOR A DURATION OF TIME.

THE VRIL POWERPOINTS IN WHICH THEY ARE SITUATED AND FOUNDED
ARE RESPONSIBLE FOR THEIR CONTINUED POTENTIAL.



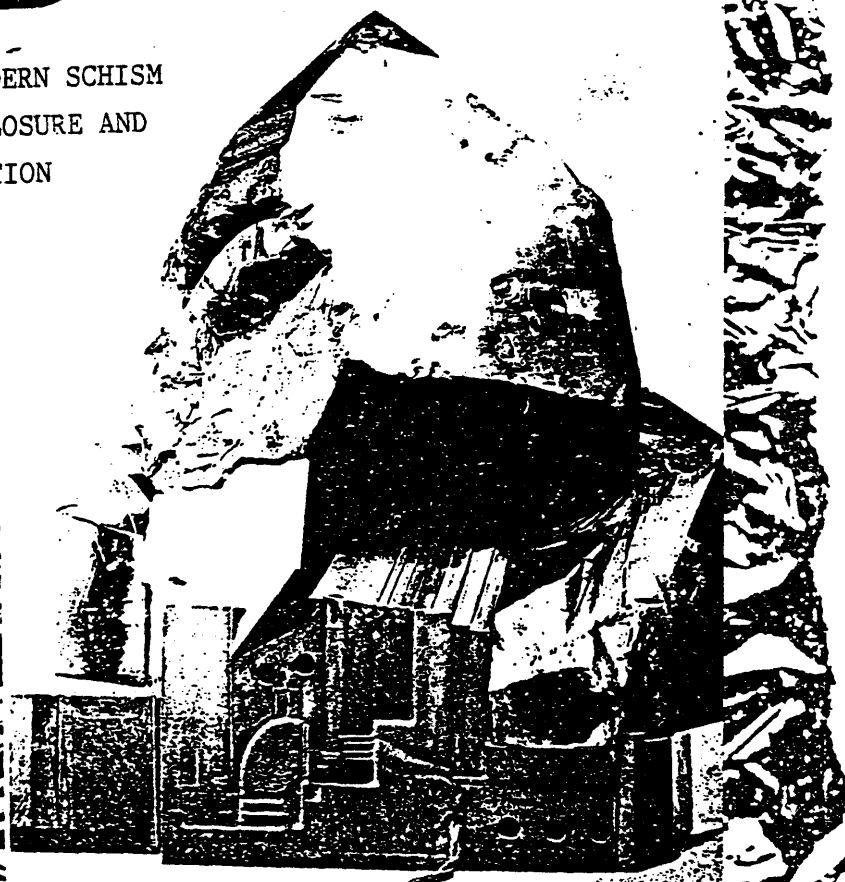
THEY ARE INCAPABLE OF BEING MODIFIED TO THE NEEDS OF
OF THE EVER-PERMUTING GROWTH PATTERNS OF VRIL.
BECAUSE THEY ARE MATERIAL FORMS.

ÆTHERFORCE

VISIONARY DESIGNERS RECOGNIZED THAT STRUCTURES
WERE INERT AND NEGATIVE
WHEN MADE FOR REASONS OTHER THAN TRANSFORMATION
OF CONSCIOUSNESS



WE ARE THUS DRIVEN TO EXAMINE THE MODERN SCHISM
BETWEEN STRUCTURES OF MERE ENCLOSURE AND
STRUCTURES OF TRANSFORMATION



TO BE ENABLED INTO THESE ARTS REQUIRED A SPECIAL VISION
AND FORGOTTEN PARTICIPATION

ETHERFORCE

DIRECT VRIL CONTACT...

RABDOMANCY AND GEOMANCY...

THE MEANS THROUGH WHICH HUMAN ORGANISMS WERE ENTUNED WITH VRIL
THROUGH DENDRITIC CONDUCTIVE MATTER (TREE BRANCHES).



DISSOLUTION OF LOCAL INERTIA

MANAGES TO FREE THE BRANCH FROM THE INERTIAL GRIP...

RESULTANT MOTIONS ARE DIRECTLY MOTIVATED THROUGH VRIL PASSAGES.

RABDOMANCY STRENGTHENED

THE VISION OF VRIL THROUGHOUT A REGION...

VISCERAL-VISUAL COORDINATIONS PROVIDE VRIL THREADS

WITH A PATHWAY...THE GEOMANCER RECEIVES

STRENGTHENING AND BECOMES ADEPT.

DOWSERS HAD RETAINED KNOWLEDGE OF VRIL ENERGIES.

THESE CURIOUS INDIVIDUALS HAD VISION WHICH SURPASSED
THE ORDINARY SENSES.

THOSE EXERCISED IN THE DOWSING ARTS
RECOGNIZED THE PERSISTENT PRESENCE
OF VRIL ARCHEFORMS THROUGHOUT THE NATURAL ENVIRONS.



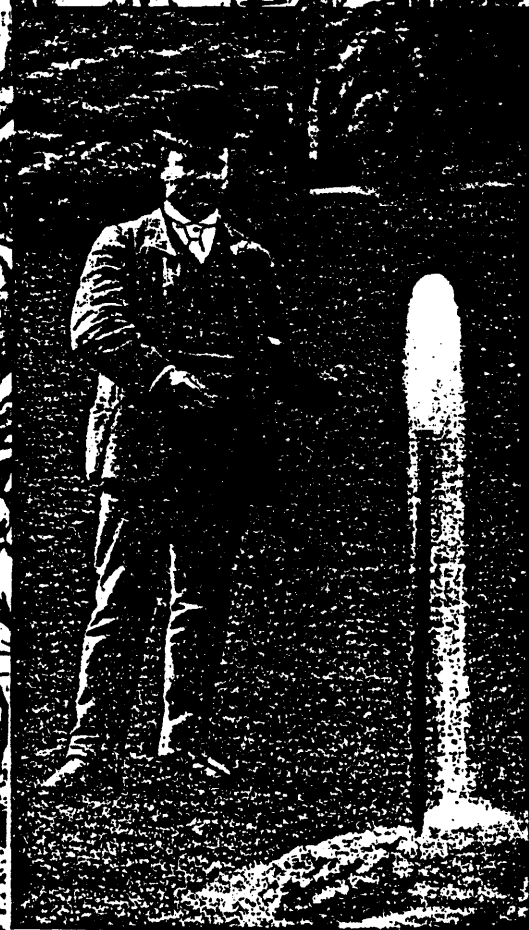
MR. TOMPKINS "DOWSING" IN SOUTH AFRICA

He was originally a farmer in Wiltshire. He was successful in obtaining water for his cattle at three different places on his own farm. Ultimately he became a professional dowser.

IT WAS THEY WHO RECOGNIZED THAT VIRTUAL STRUCTURES DID IN FACT EXIST
THROUGHOUT THE ENVIRONS.

THUS WE WERE INFORMED CONCERNING THE REALISTIC SCHISM BETWEEN
MATERIAL FORM AND VRIL VIRTUAL FORM:

HOW THE TWO COULD BE DEMONSTRABLY SHEARED
AND UTTERLY SEPARATED.



THE ART OF DOWSING

Mr. W. Stone, describing how he found he possessed the art of dowsing, said: "I felt a peculiar twitching in the rod, and hearing that the rod would turn with anyone who had this feeling, I was determined to stop it if possible, but to my astonishment the rod twisted itself over until it broke in my grasp."

IN THE DOWSERS WAS RECALLED A FORGOTTEN VISIONARY SENSE...

VRIL VISION WAS THE VERY MEANS BY WHICH SENSITIVES

HAD DISCERNED THE NEEDFUL STRUCTURE OF CATHEDRALS

CENTURIES BEFORE.

THESE INDIVIDUALS COULD LITERALLY PERCEIVE AND ENVISION

THE VIRTUAL TOPOGRAPHY OF VRIL ARCHEFORMS

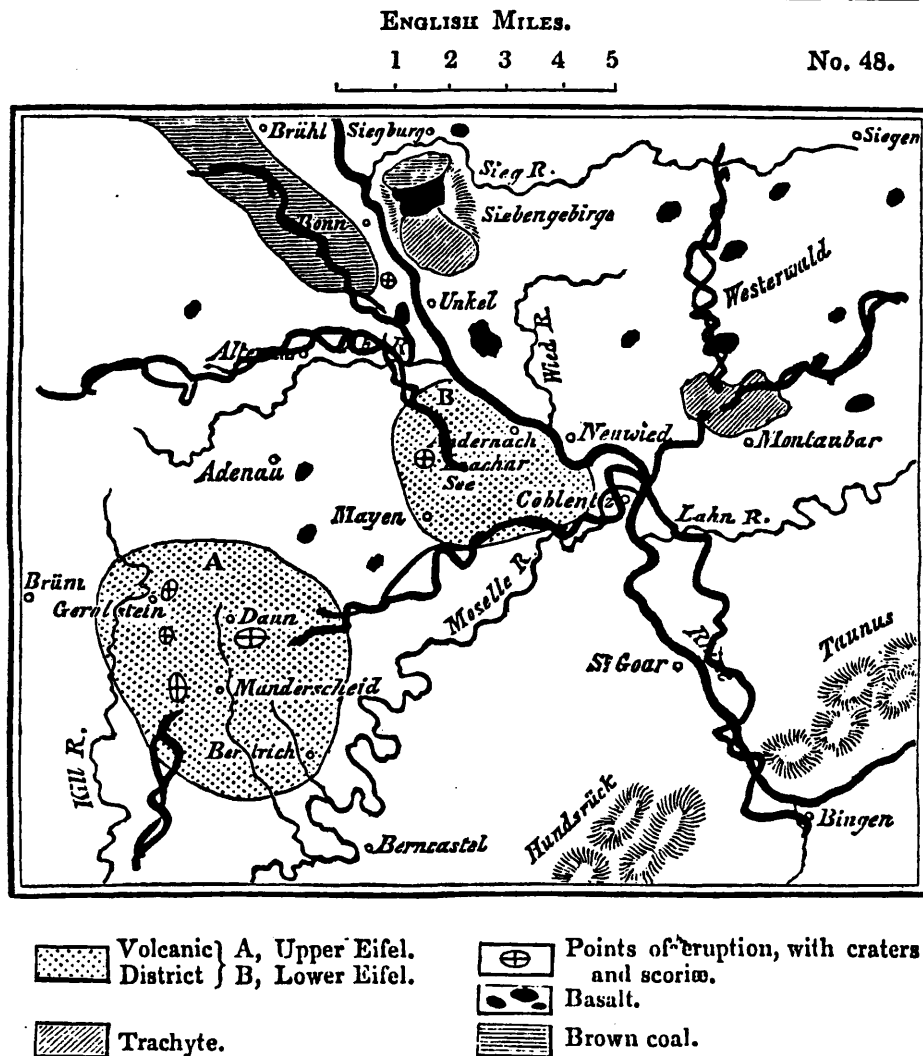
AND THE FACT THAT THESE EXISTED DESPITE THE ABSENCE OF

HOST MATERIALS OF ANY KIND.

ETHERFORCE

VRIL ARCHEFORMS WERE DETERMINED AGAINST THE PREVAILING
LOCAL GEOLOGY.

IT WAS SOON REALIZED THAT THESE ARCHEFORMS OF VRIL
WERE NOT SIMPLY CONFINED TO THE HORIZONTALITY OF
THE LANDS IN WHICH THEY WERE DISCERNED...

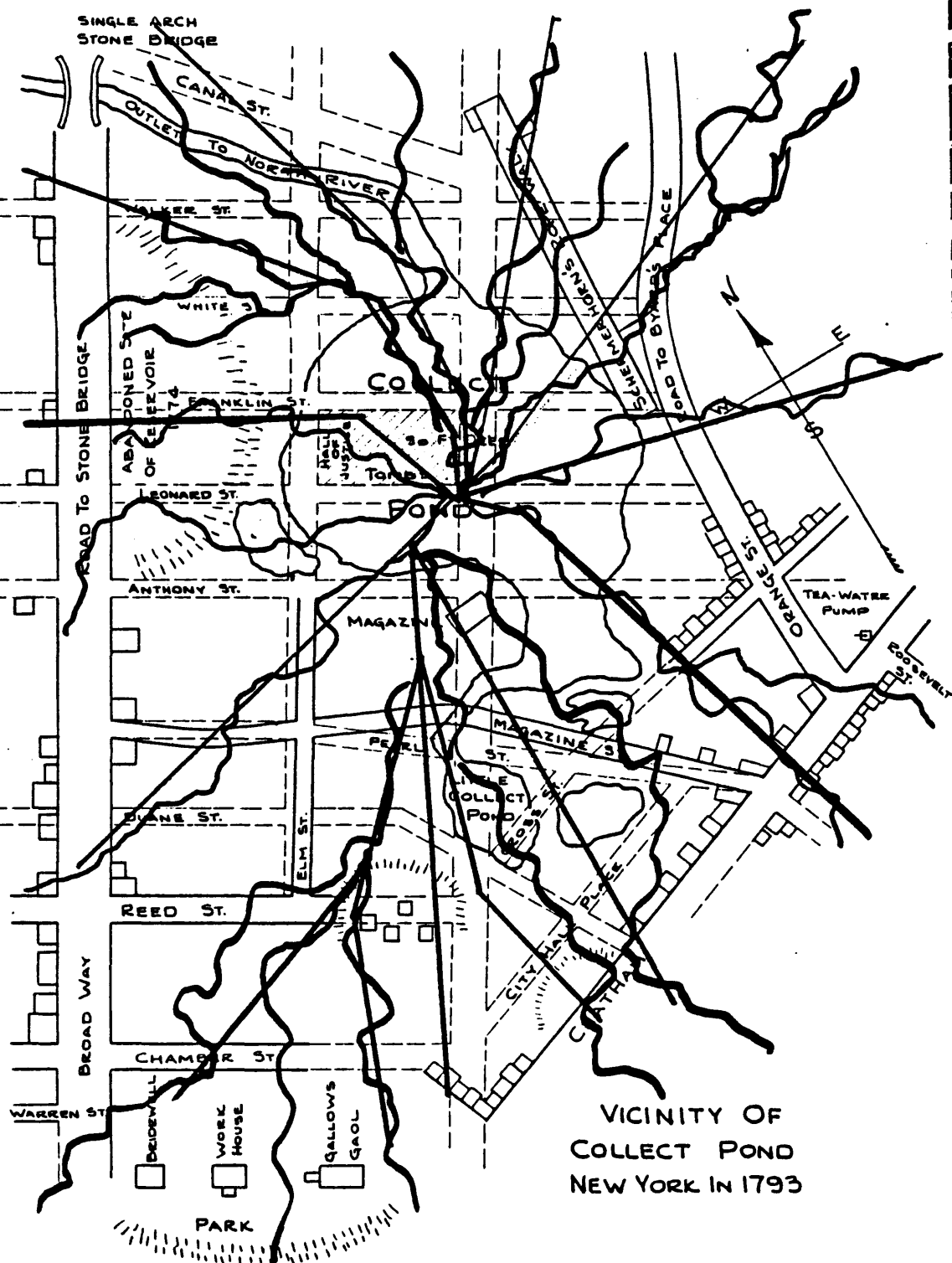


N.B. The country in that part of the map which is left blank is almost entirely composed of graywacke.

BUT THAT THEY WERE LITERALLY DISPOSED AMID
AND ABOVE THE GROUND IN VIRTUAL STRUCTURES
AND VIRTUAL ENCLOSURES.

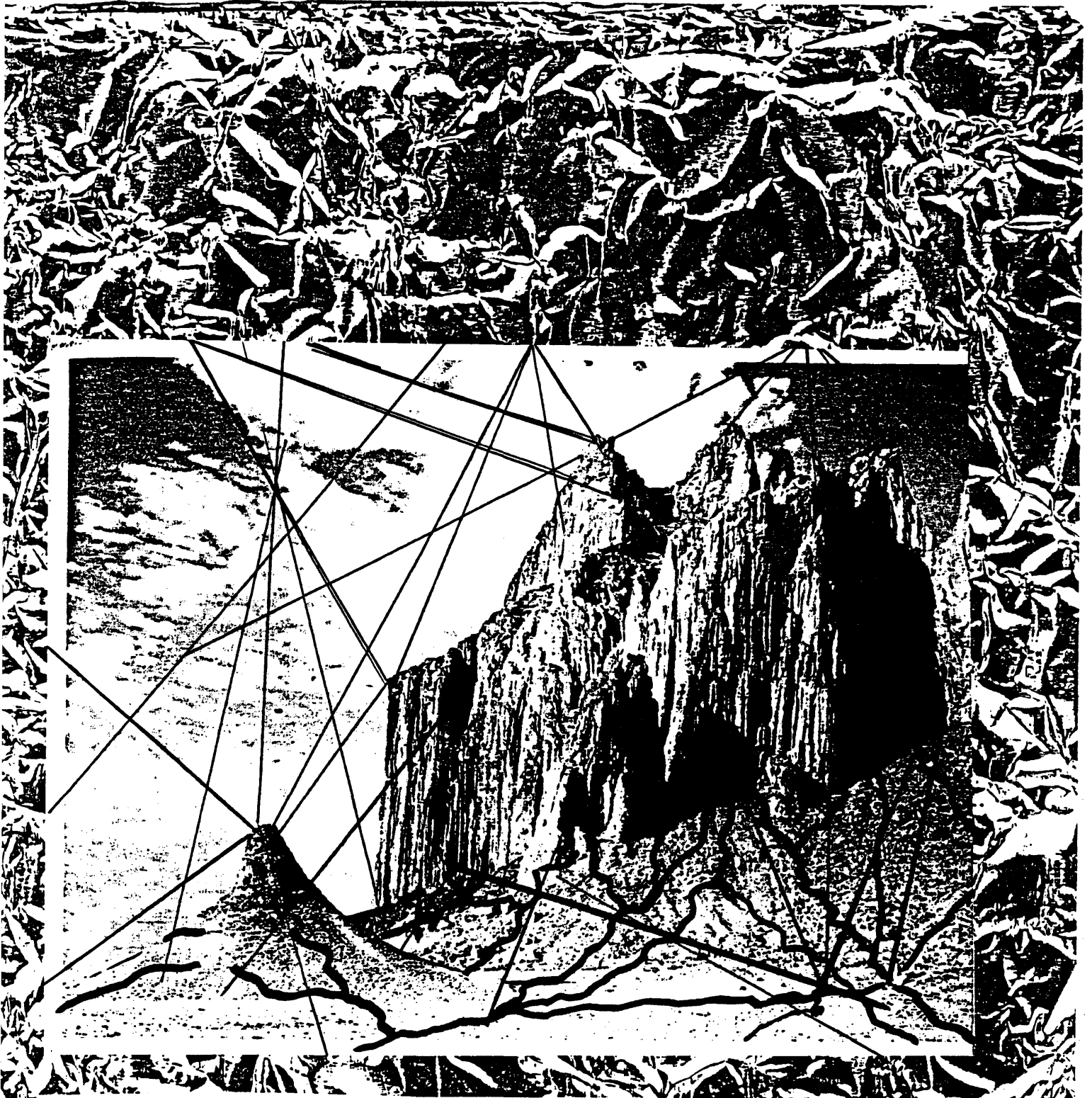
THESE VIRTUAL STRUCTURES WERE PURE EXPERIENTIAL FORMS
CAPABLE OF TRANSFORMING AND ENHANCING HUMAN CONSCIOUSNESS

VRIL THREADS AND THEIR PATHWAYS MEANDER ABOUT THE RAYS ON WHICH THEY ARE COMPOSED.



VICINITY OF
COLLECT POND
NEW YORK IN 1793

THEY HAVE MUCH TO DO WITH GEOLOGY AND WATER...
BUT ARE THE GENERATORS AND SUSTAINERS OF SUCH MANIFESTATIONS...
NOT THE RESULTS OF THOSE MANIFESTATIONS.



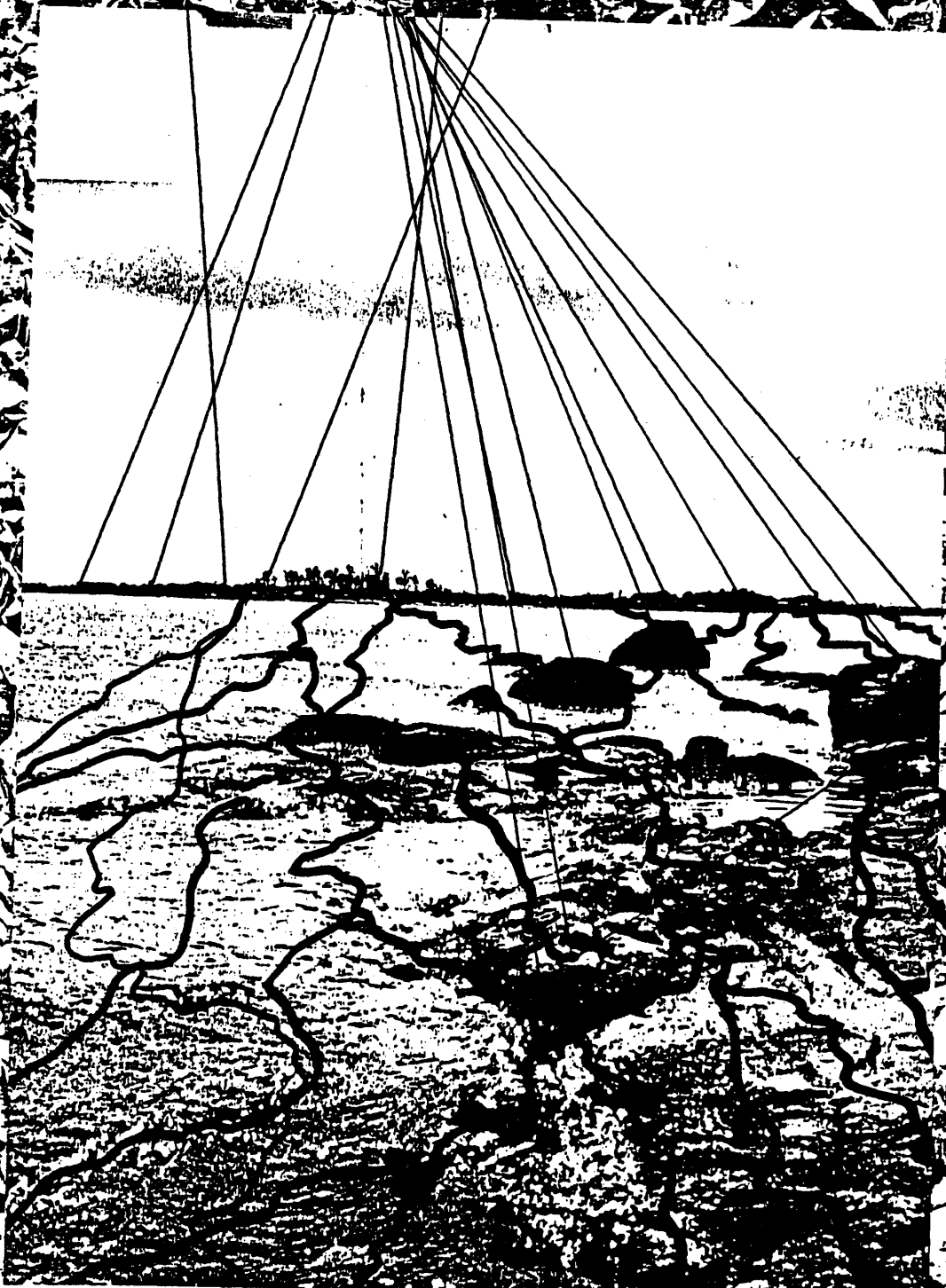
WE MAY CHART AND MAP THE DISTRIBUTIONS OF FUNDAMENTAL FORMANT RAYS (THE WHITE AND THE BLACK)
AND LEARN OF THE CURIOUS RELATIONSHIP WHICH THE VRIL THREADS AND PATHS
TRAVERSE...RARELY ALIGNED STRICTLY WITH THE MAGNETIC MERIDIANS
OR THE ELECTRIC MERIDIANS.

ÆTHERFORCE



THESE (WHILE SEEMINGLY INVISIBLE AND INSUFFICIENT)
WERE INDEED CAPABLE OF BOTH GENERATING AND EXTENDING
THE CONSCIOUSNESS OF PARTICIPANTS SO ENCLOSED.
THE EPHEMERAL AND VIRTUAL RESONANCES DEMONSTRABLY ALTERED
AND WONDROUSLY ENHANCED
THE CONSCIOUSNESS AND EXPERIENCE OF ALL WHO ENTERED THEIR
PERIPHERIES AND PROXIMAL ZONES OF INFLUENCE.

ETHERFORCE



THE DISTRIBUTIONS OF VRIL THREADS AND THREADWAYS ARE CURIOUS...

IN CHARTING THESE WE REALIZE A SIGNIFICANT CRYSTALLINE

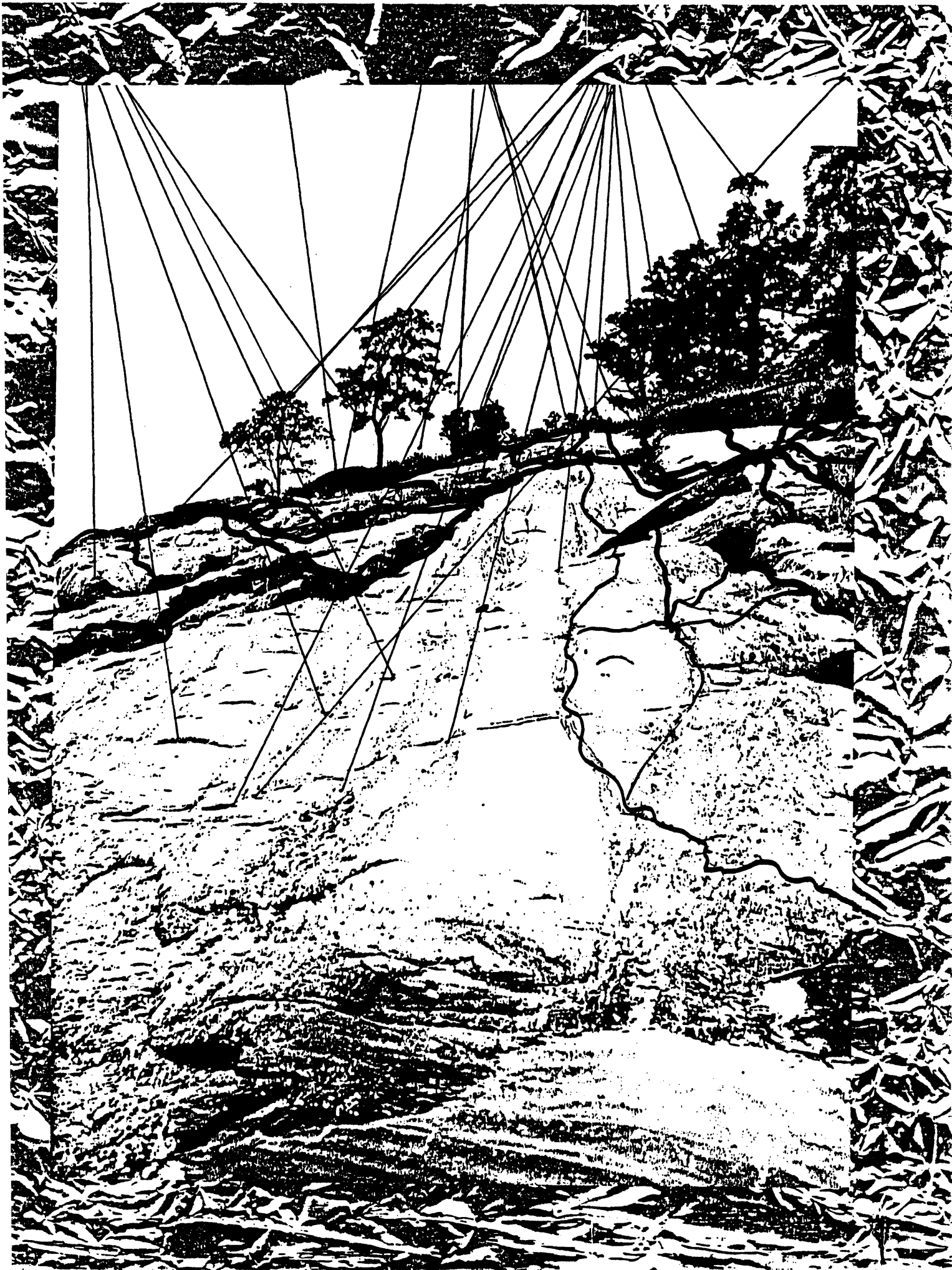
STRUCTURE WHICH REPEATS CONTINUALLY

FROM REGION TO REGION...

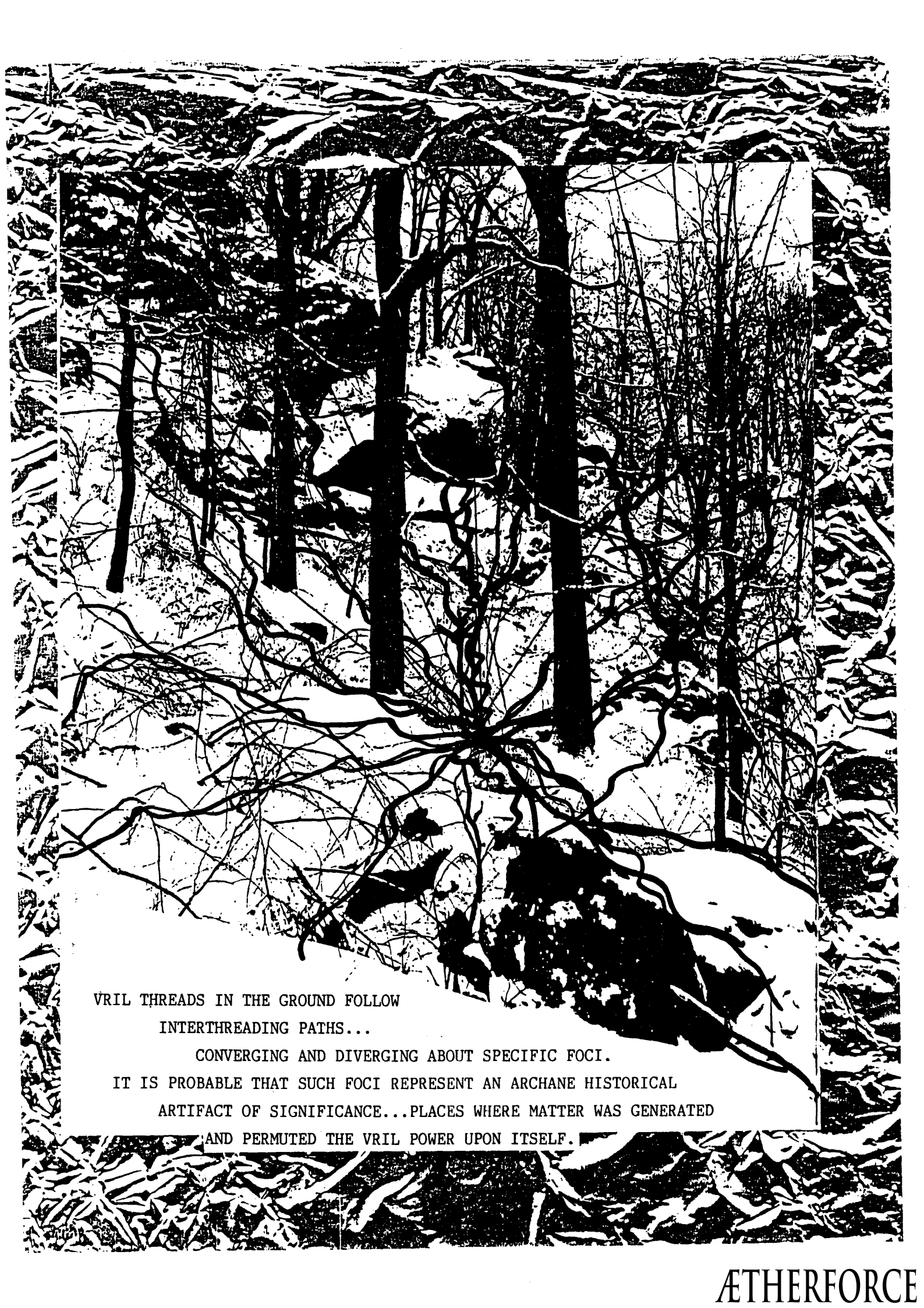
THE POLYCRYSTALLINE SUMMIT...

NOT A TRUE PYRAMID AND INTENSELY COMPLEX

ÆTHERFORCE



ÆTHERFORCE

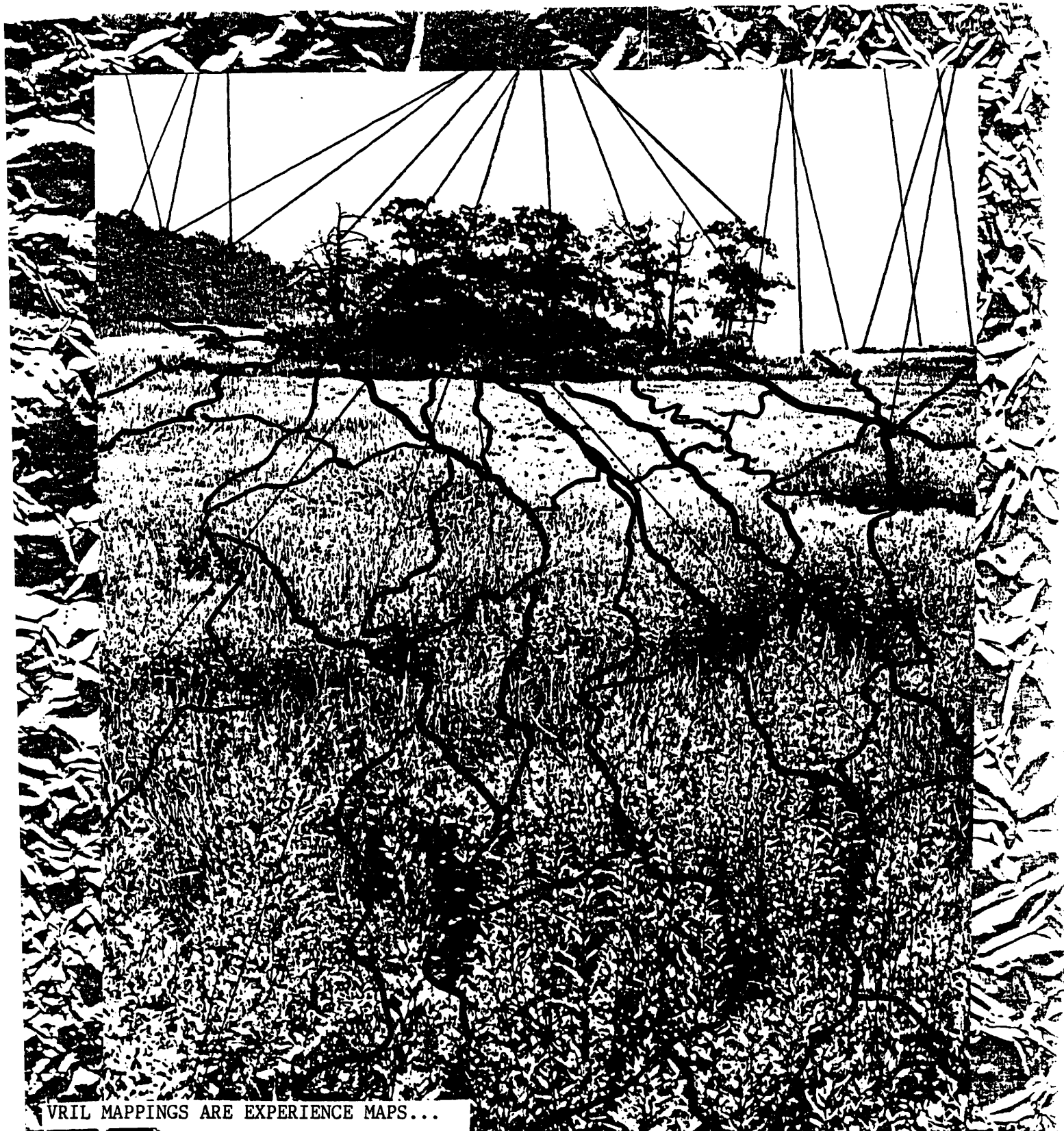


VRIL THREADS IN THE GROUND FOLLOW
INTERTHREADING PATHS...

CONVERGING AND DIVERGING ABOUT SPECIFIC FOCI.

IT IS PROBABLE THAT SUCH FOCI REPRESENT AN ARCHANE HISTORICAL
ARTIFACT OF SIGNIFICANCE...PLACES WHERE MATTER WAS GENERATED
AND PERMUTED THE VRIL POWER UPON ITSELF.

ÆTHERFORCE



VRIL MAPPINGS ARE EXPERIENCE MAPS...

THE LINES ARE CHARTINGS OF EXCEPTIONALLY CLEAR CONSCIOUSNESS

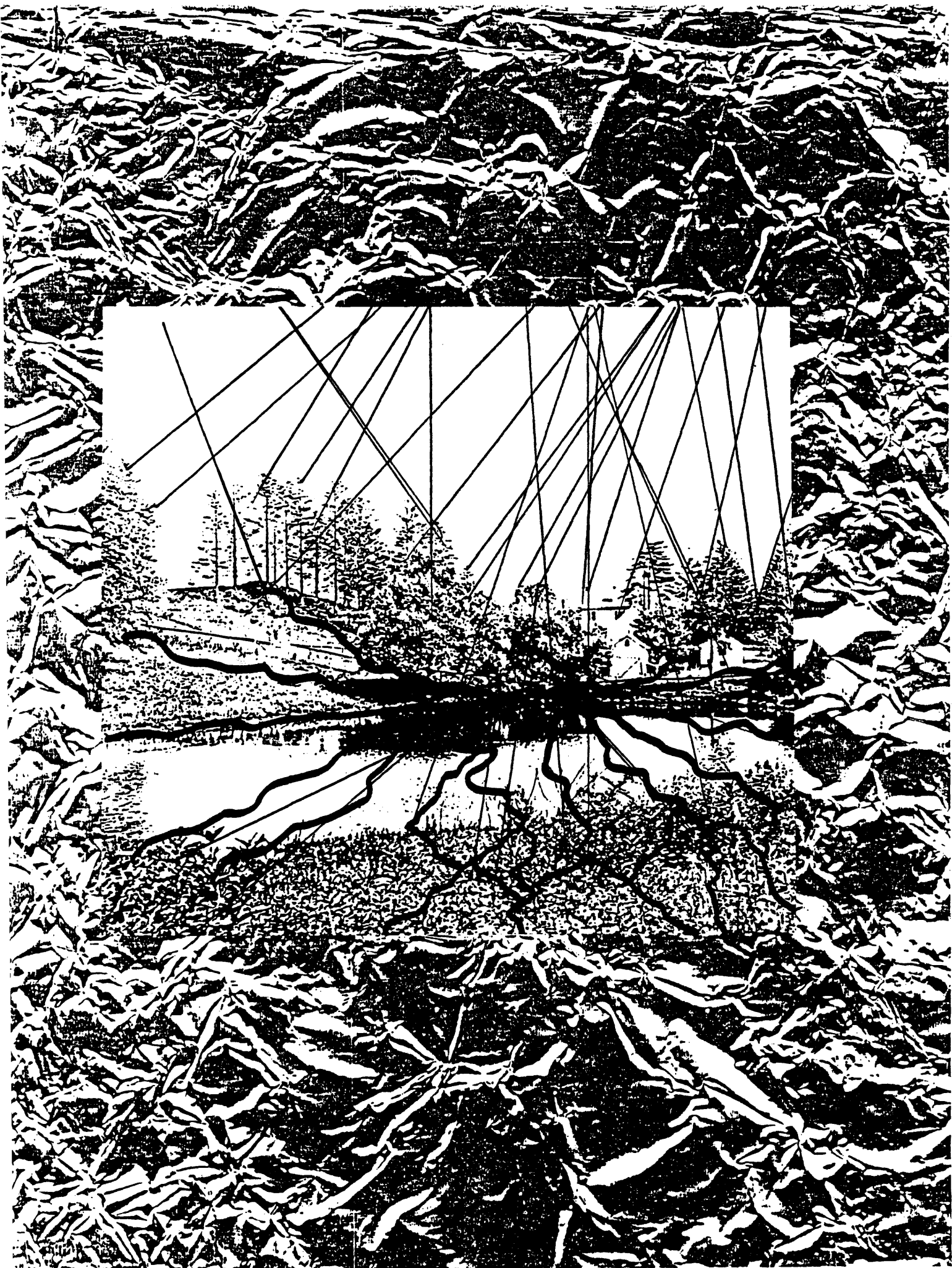
THE LINES DO NOT TELL US WHAT WILL BE EXPERIENCED...

BUT THE LINES TELL US WHERE WE MAY EXPECT TO EXPERIENCE THE EXTRAORDINARY.

VRIL LINES ARE LINES OF CONSCIOUSNESS...OF SUPER RADIANT AWARENESSES

OR OF DEEP REVELATORY EPIPHANIES...THE VERY DEEPEST OF MOODS.

ÆTHERFORCE



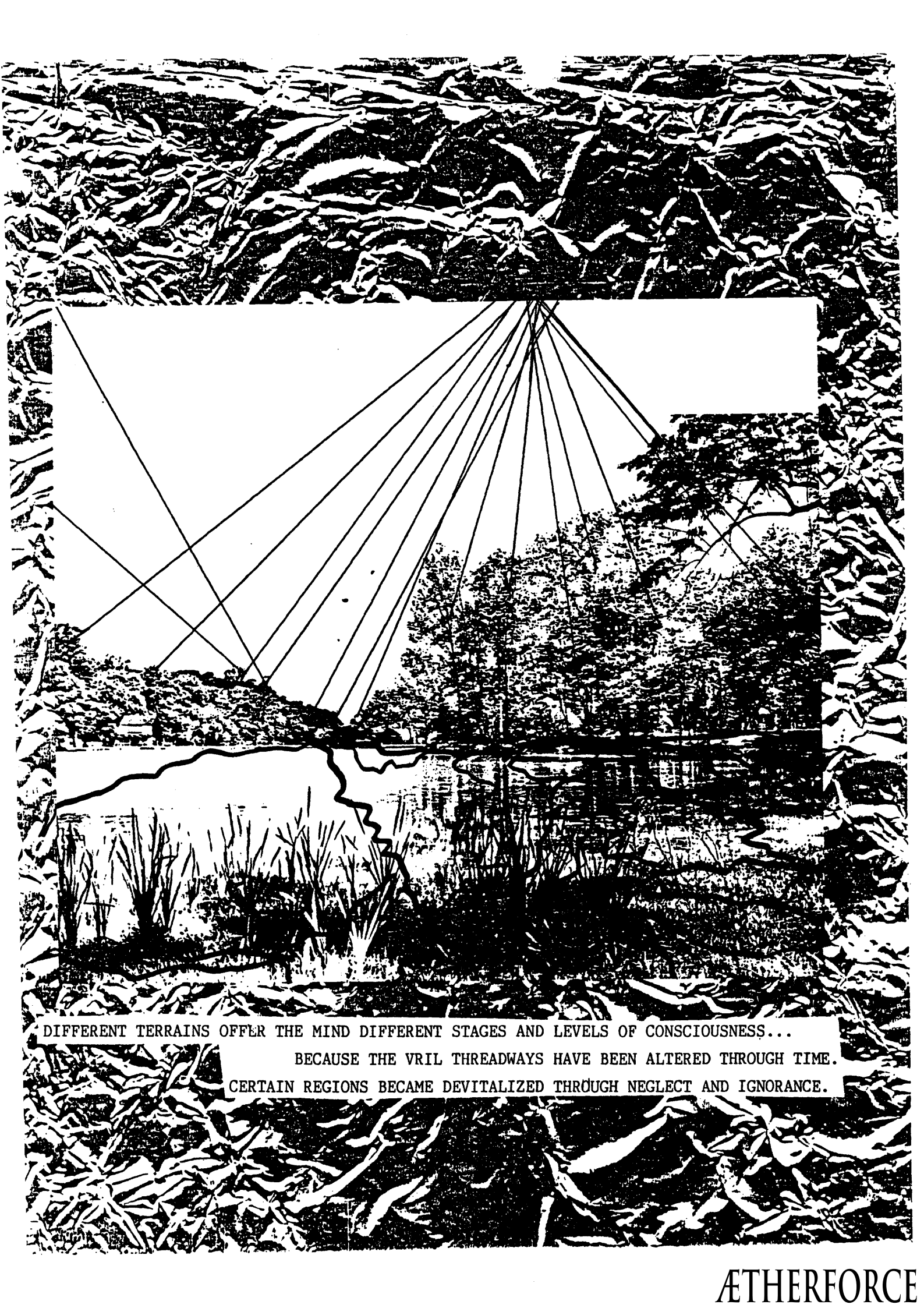
ÆTHERFORCE



ÆTHERFORCE



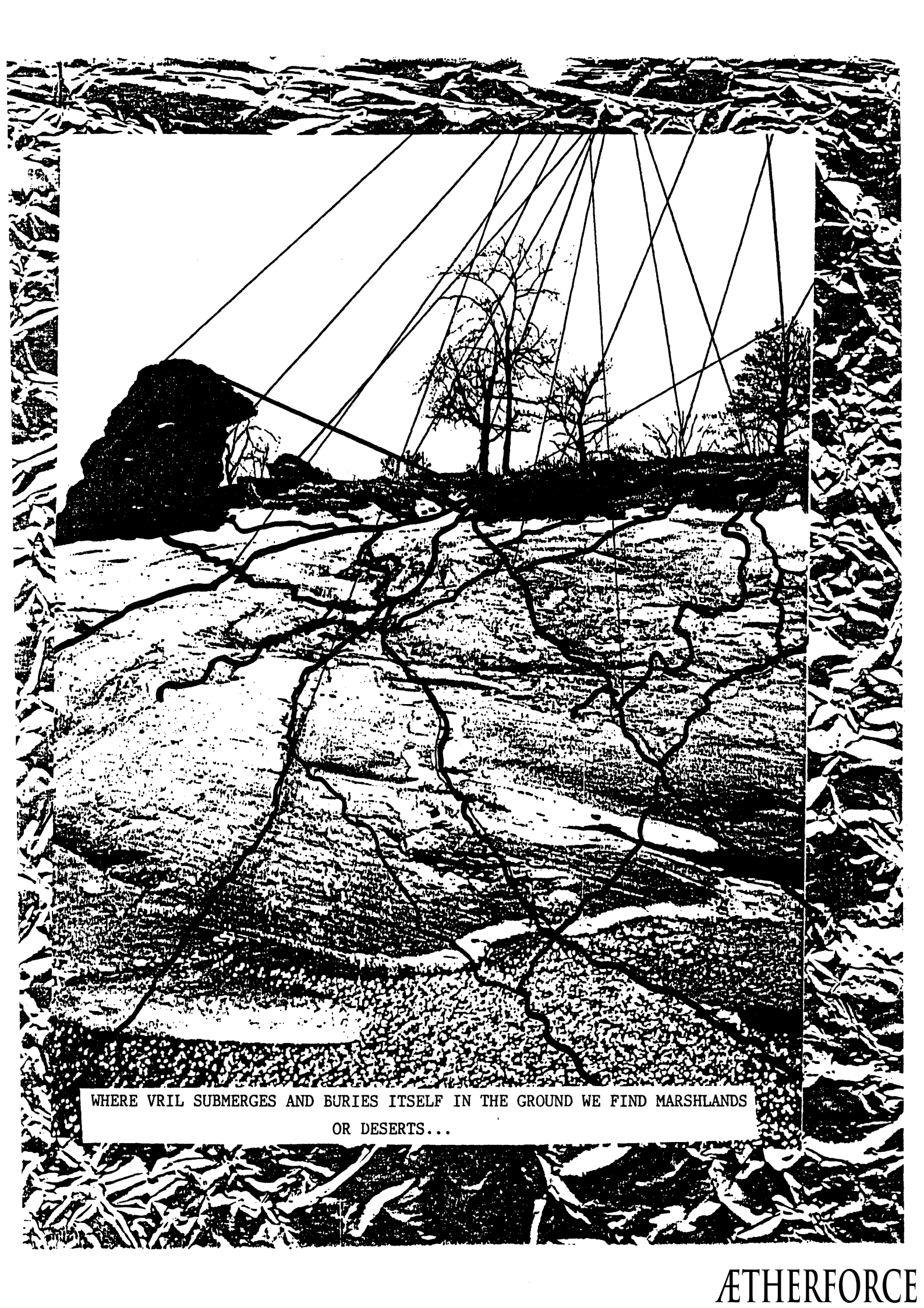
ÆTHERFORCE



DIFFERENT TERRAINS OFFER THE MIND DIFFERENT STAGES AND LEVELS OF CONSCIOUSNESS...

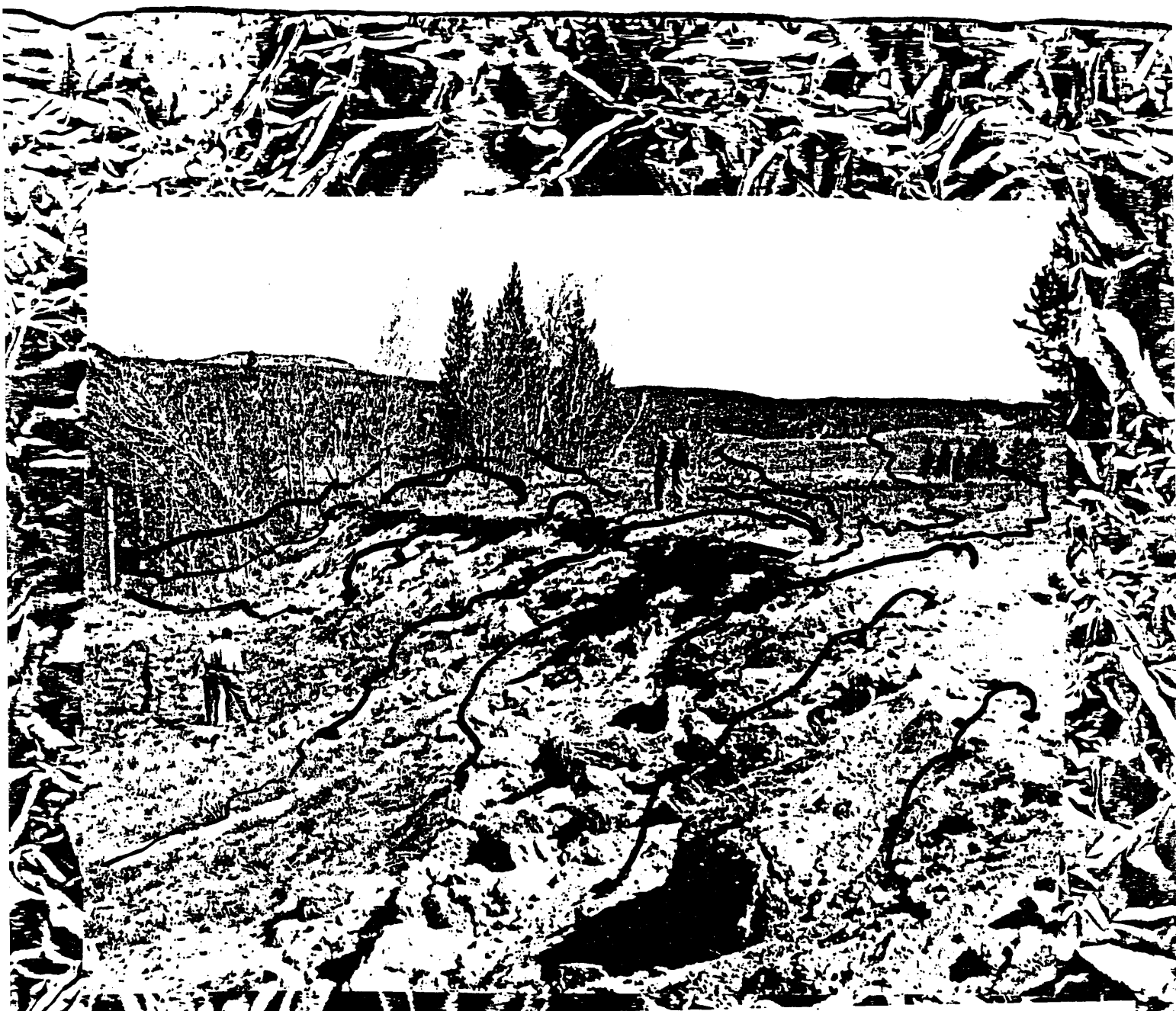
BECAUSE THE VRIL THREADWAYS HAVE BEEN ALTERED THROUGH TIME.
CERTAIN REGIONS BECAME DEVITALIZED THROUGH NEGLECT AND IGNORANCE.

ÆTHERFORCE



WHERE VRIL SUBMERGES AND BURIES ITSELF IN THE GROUND WE FIND MARSHLANDS
OR DESERTS...

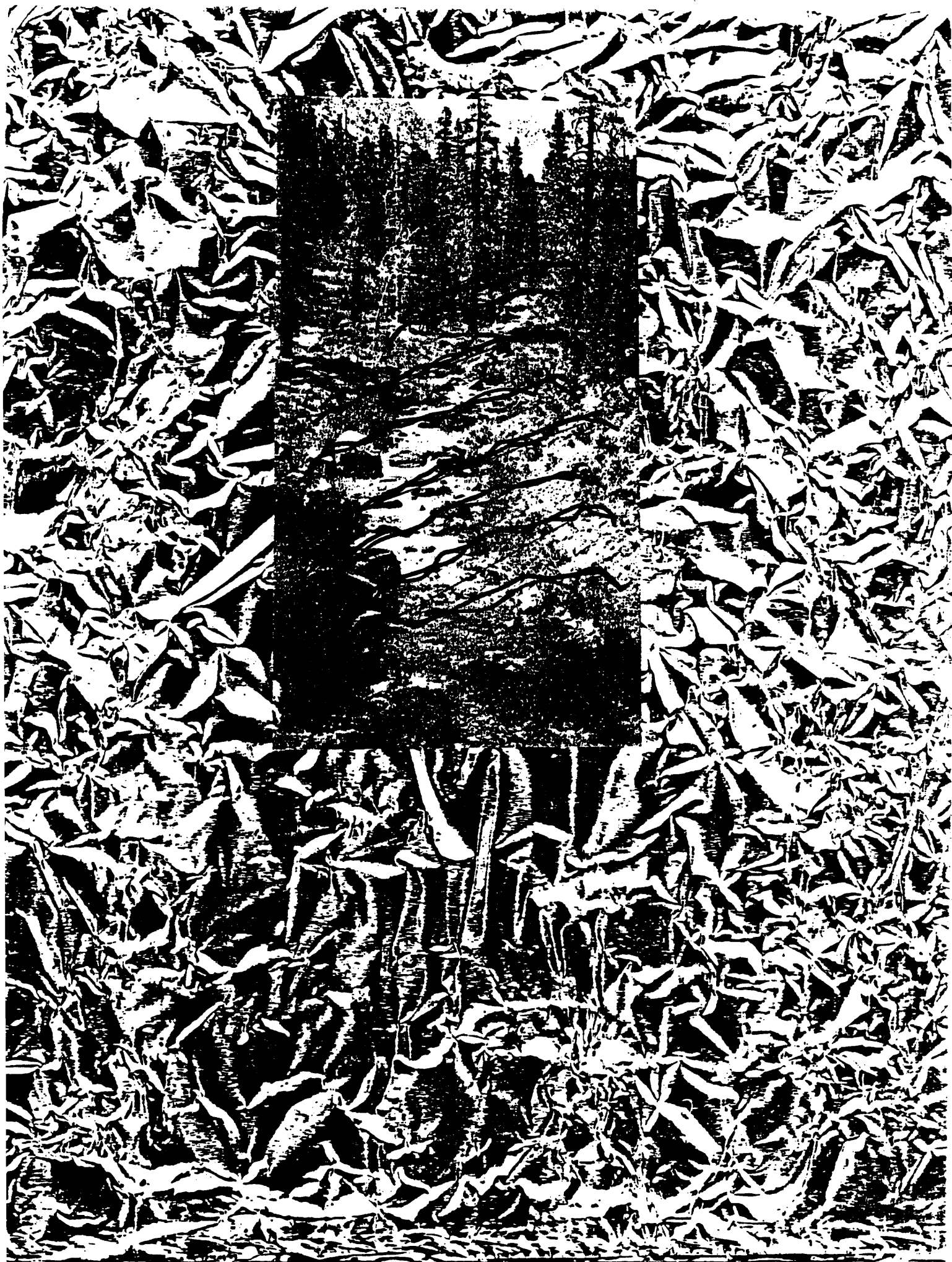
ÆTHERFORCE



VRIL THREADWAYS LEAP GAPS AND RE ENTER GROUND DIRECTLY.

SUCH SITES OFTEN MANIFEST THEMSELVES AS DESERTS OR AS ARID REGIONS.





ÆTHERFORCE



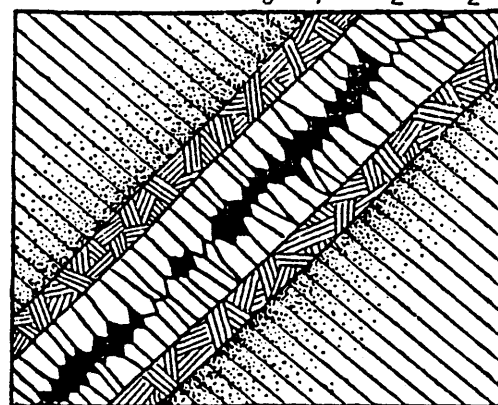
VRIL THREADS ARC AND DISCHARGE ACROSS GROUND SCARS...FISSURES AND NEW CRACKS ...

WHERE THEY ARE ALWAYS FOUND DISAGREEABLY TO MANIFEST

VERY INTENSE BLACKWAVES

OF A SMALL WAVE DIMENSION.

SUCH HEAT IS UNCOMFORTABLE AND CANNOT BE MEASURED WITH INERTIAL METERS.



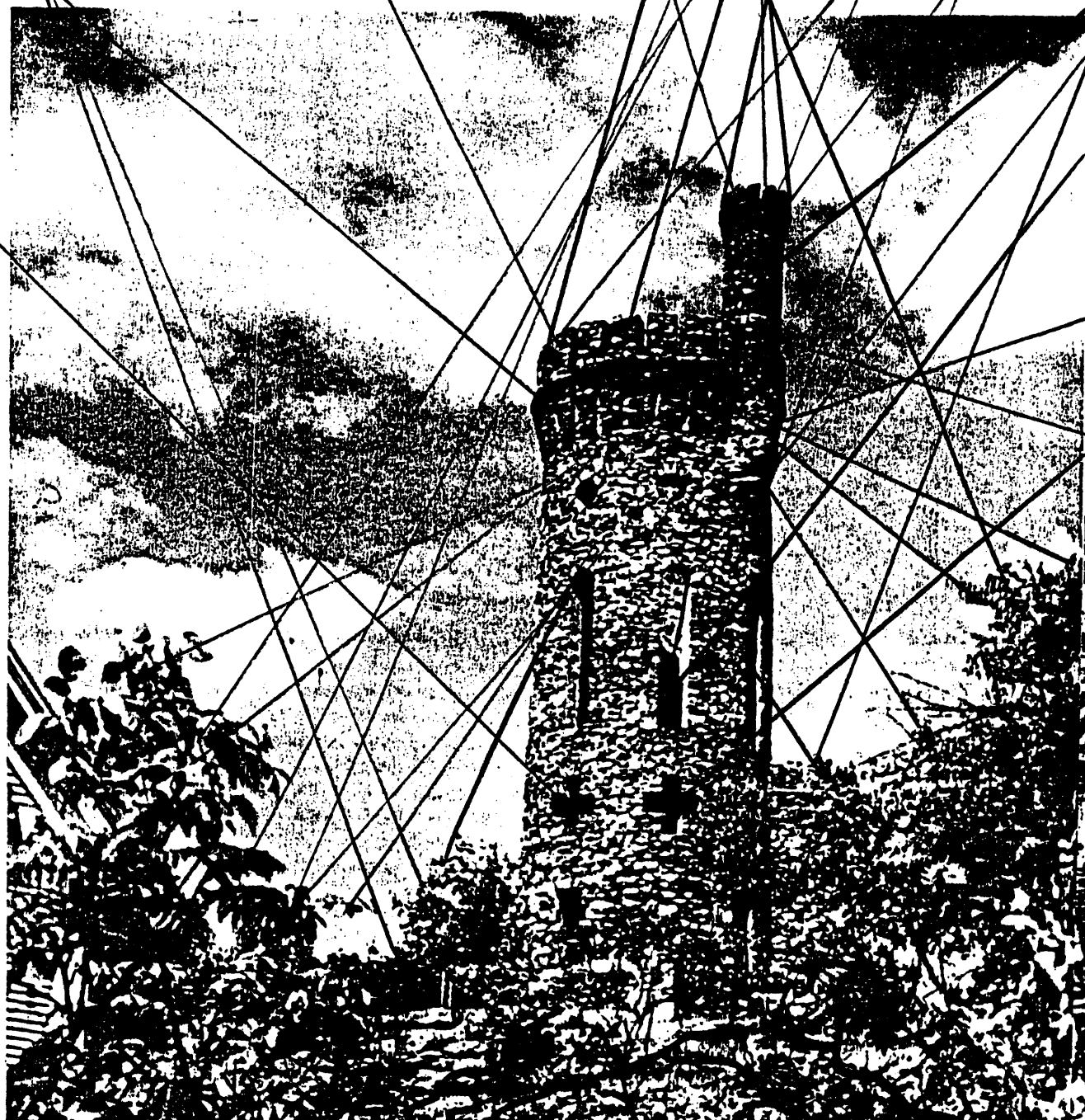
HERE THE GROUND HEALS ITSELF

THROUGH VRIL THREADWAYS AND FOCUSSINGS OF VRIL INTENSITY

STRUCTURES ARE ESPECIALLY POTENT WHENEVER THEY HAVE BEEN MADE

TO COINCIDE EXACTLY WITH VRIL THREADS IN THE GROUND

AND VRIL THREADWAYS INTO SPACE...



SUCH PLACES HAVE A NOUMENOUS PRESENCE BECAUSE THEY TRANSDUCE THE NOUMENOS ENERGY

DIRECTLY...FOCUSSING THAT ENERGY (VRIL) THROUGH A FIXED METHOD

OF MATERIAL ENTUNEMENT.

BULK TUNING OF VRIL THROUGH MATTER AND MATERIAL STRUCTURES

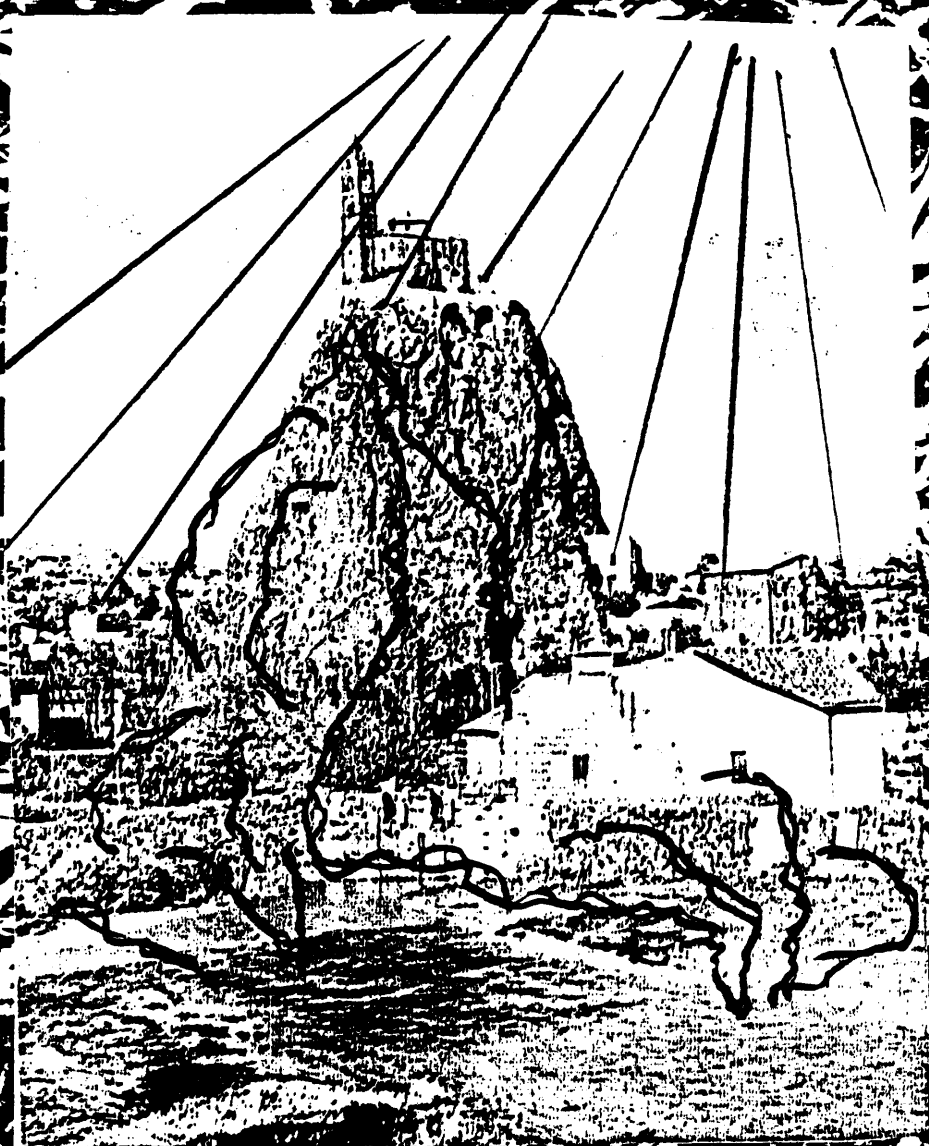
IS CAPABLE OF RAISING VRIL LEVELS FOR A TIME.

WHEN THE RESONANCE IS FINALLY ACHIEVED BETWEEN VRIL GROUND AND STRUCTURE

THE BUILDING LOSES ITS POWER TO GO BEYOND THE FIXED BOUNDS...

WHERE HUMAN DESIRES AND VISIONS ARE WONT TO GO...

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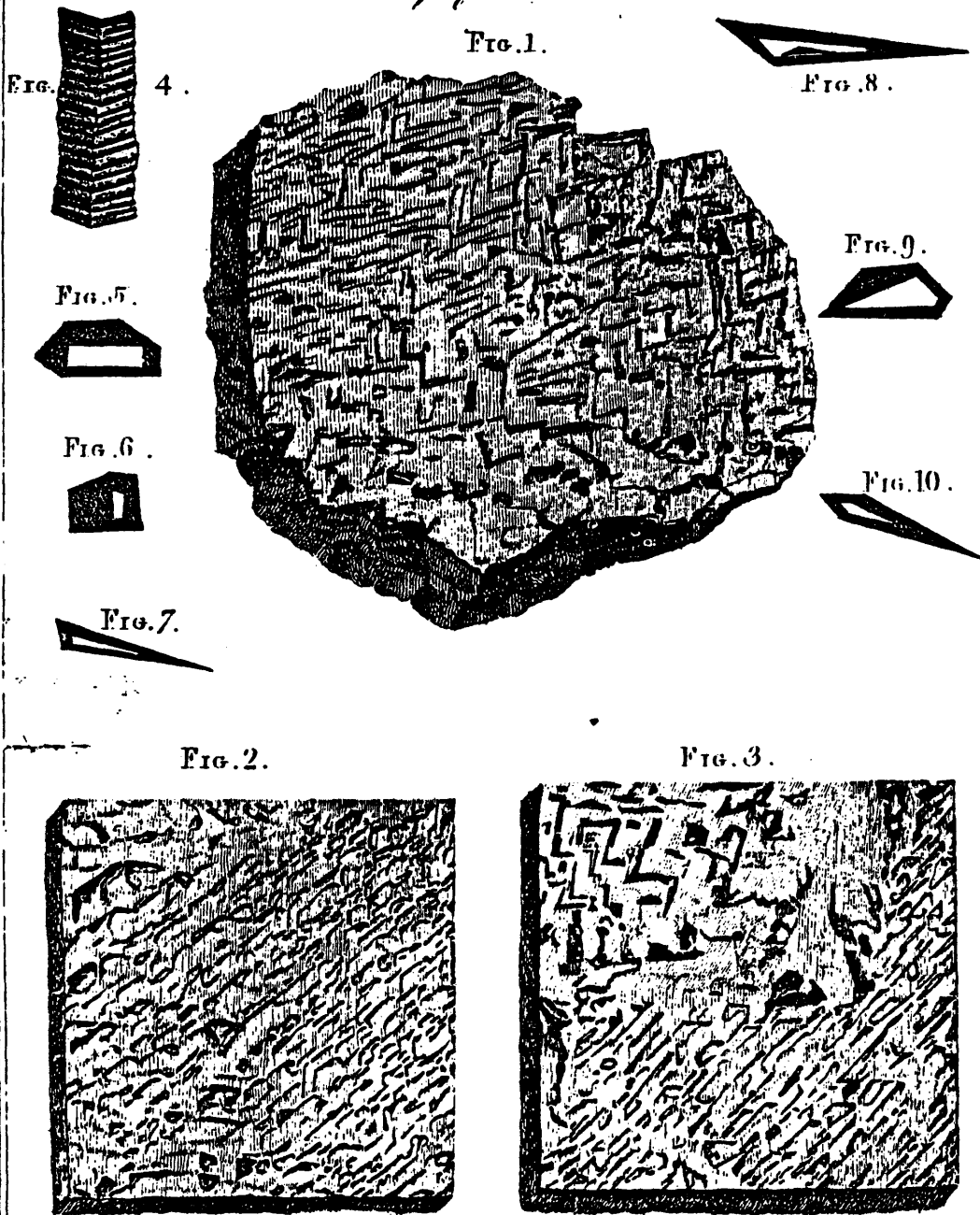
ÆTHERFORCE



ÆTHERFORCE

Theory of the Earth

PLATE II.



ASSOCIATED AS THE VIRTUAL VRIL STRUCTURES WERE WITH LOCAL
GROUND MATERIALS THEY WERE NOT VIEWED AS
TUNABLE ARCHEFORMS...FORMS CAPABLE OF BEING IN ANY WAY
MODIFIED, STRENGTHENED, AND ENHANCED
THROUGH HUMAN AGENCY OR APPLIANCE.



THE RESEARCH OF A FEW DARING INDIVIDUALS COULD GIVE FULL EXPOSITION

CONCERNING THE VRIL VIRTUAL STRUCTURES AND THEIR EFFECTS ON HUMAN CONSCIOUSNESS.

RADIONISTS DISCOVERED THAT VRIL IS LIFE GENERATING:

A PRE-MAGNETIC...PRE-ELECTRIC ENERGY OF CONSCIOUS POTENTIAL.

THEY DISCOVERED THAT (THROUGH TELEGRAPHIC COMPONENTRY)

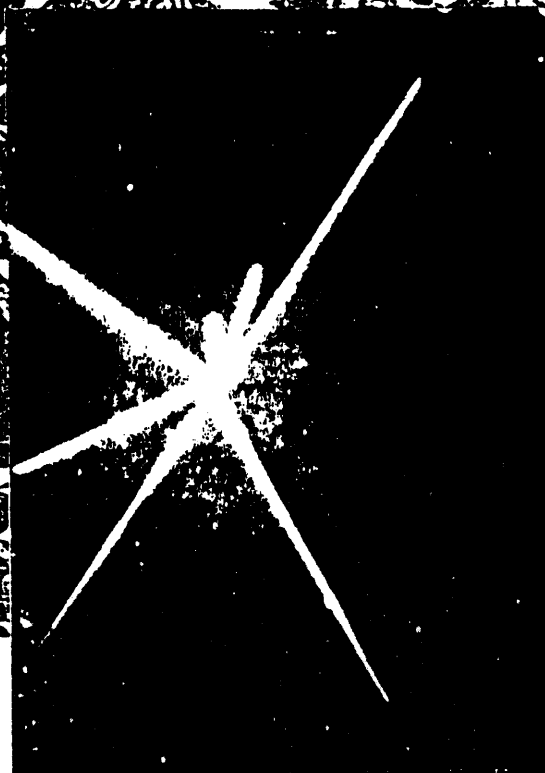
VRIL COULD BE TRANSDUCED, MODULATED, AND MODIFIED BY APPROPRIATE CIRCUITRY

AND SPATIAL RELATIONSHIP...TRANSMUTING AWARENESS.

ÆTHERFORCE

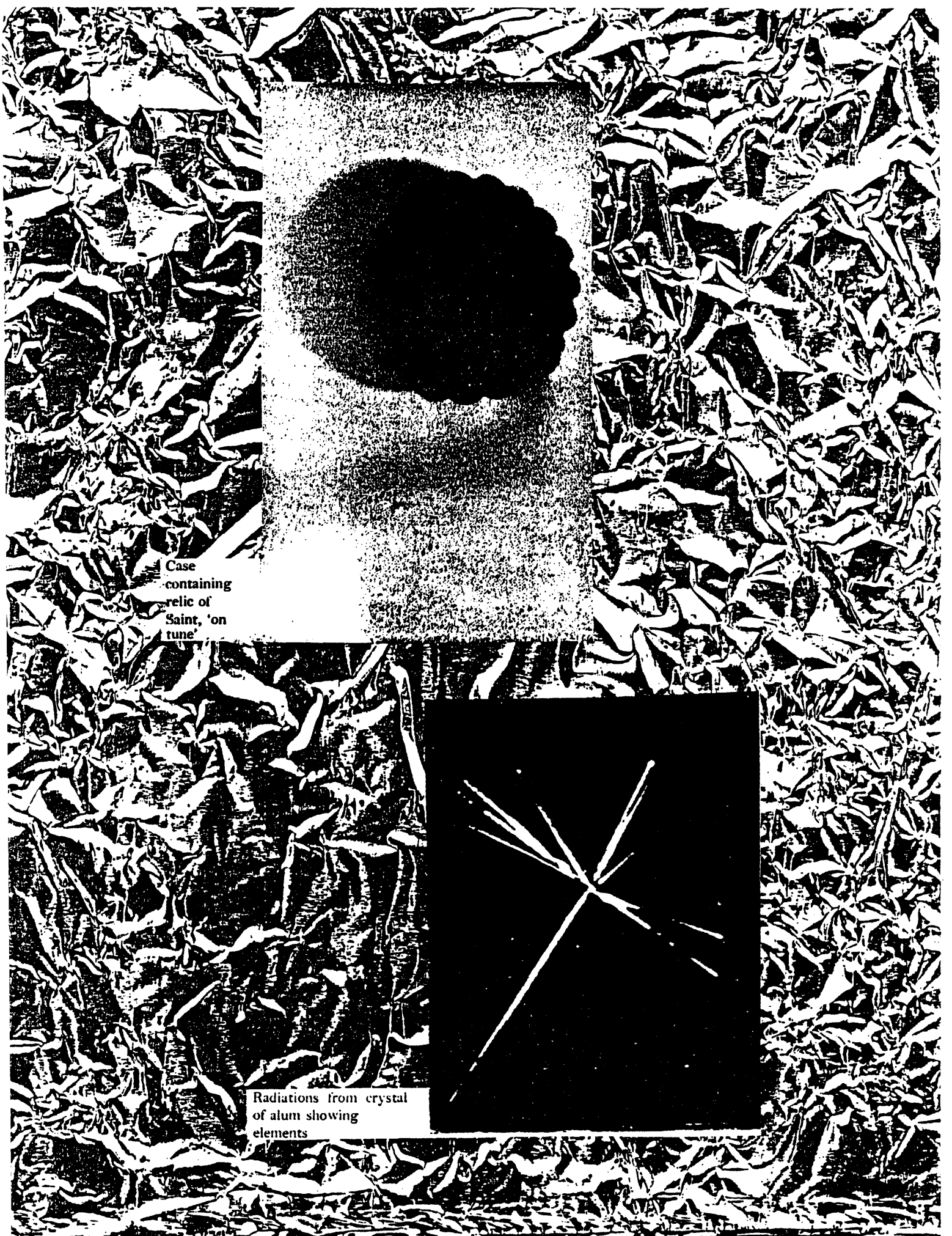


Radiations from crystal
of silver nitrate
showing elements



Radiations
from bottle
of Oxford
tap water,
1950

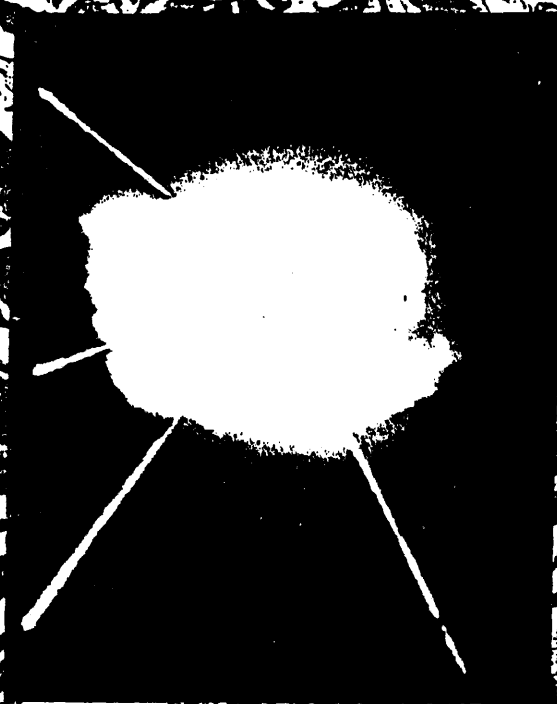
IN THESE DELICATE AND PETITE DESIGNS ARE REVEALED THE CENTRAL HEART
AND COMPONENTRY OF FUTURE SCIENCE CAPABLE
OF EXTENDING CONSCIOUSNESS



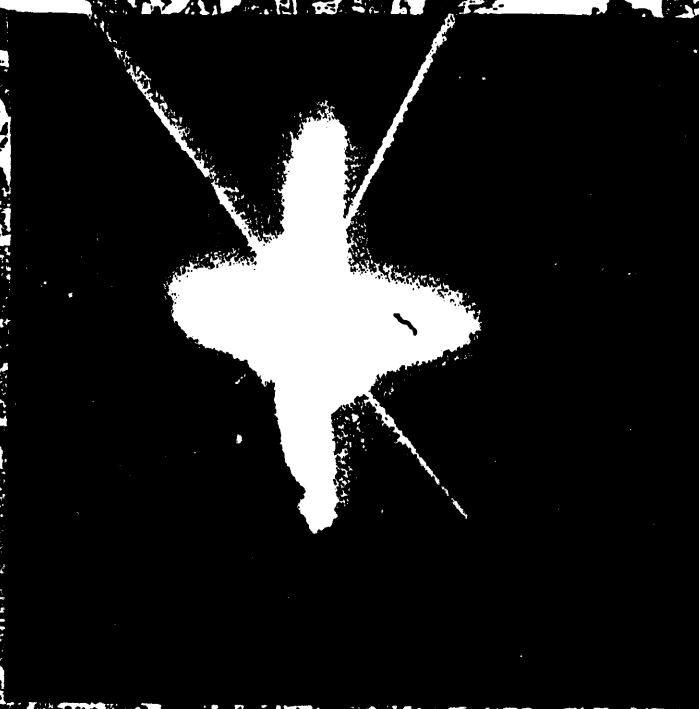
Case
containing
relic of
Saint, 'on
tune'

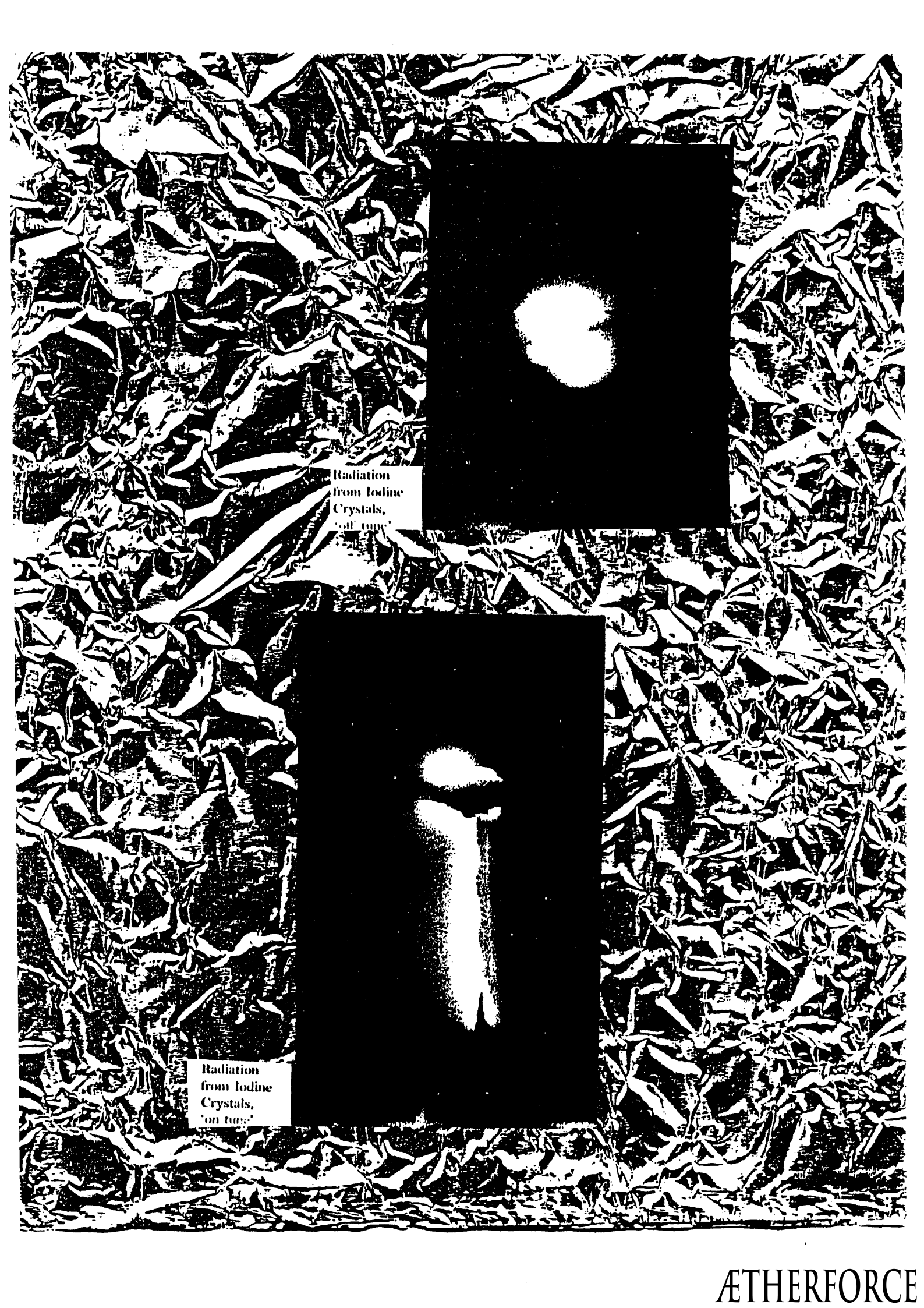


Radiations from crystal
of alum showing
elements



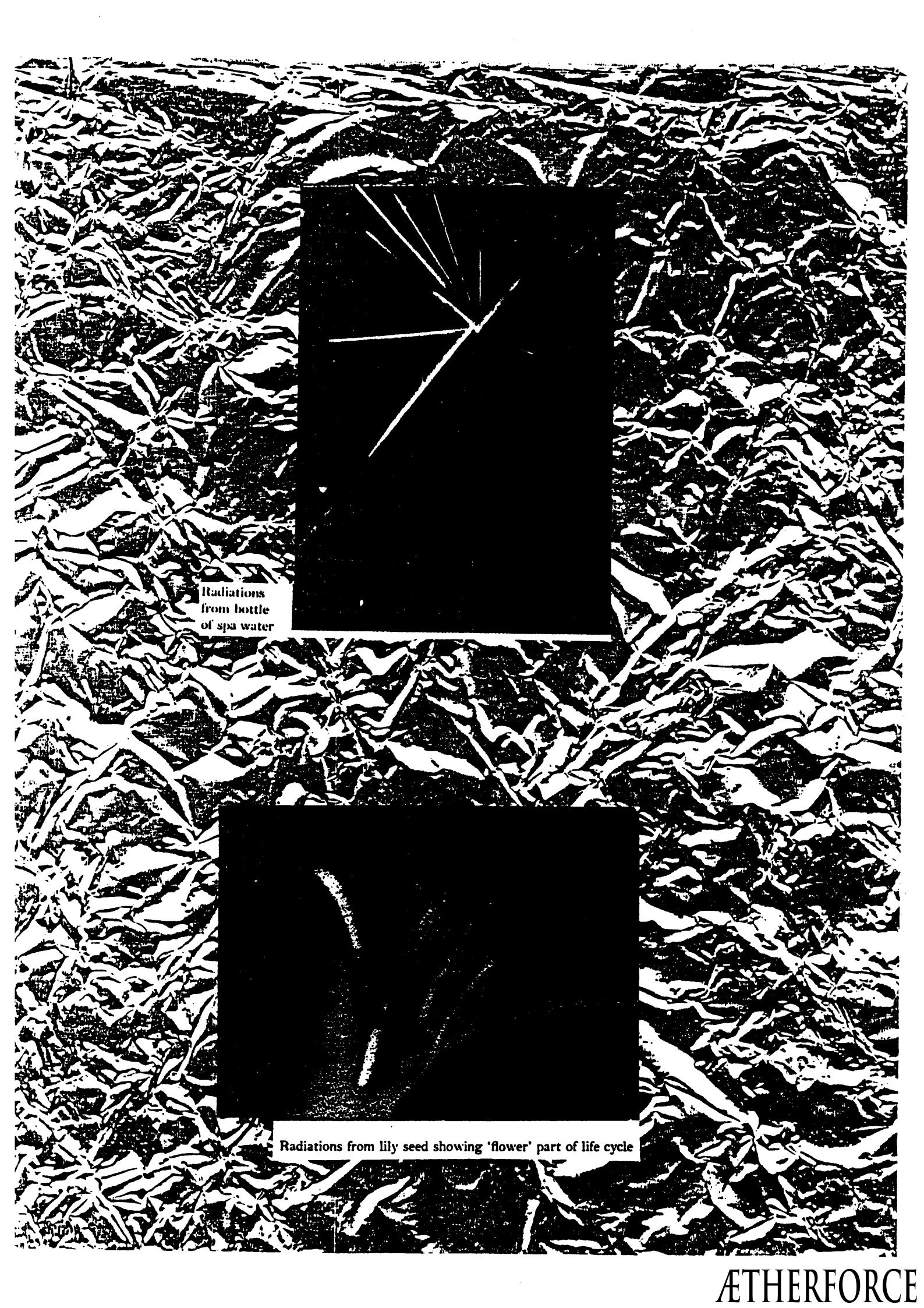
Radiations from
Oxford tap water after
ceremonial blessing
by the
Rev. J. C. Stephenson





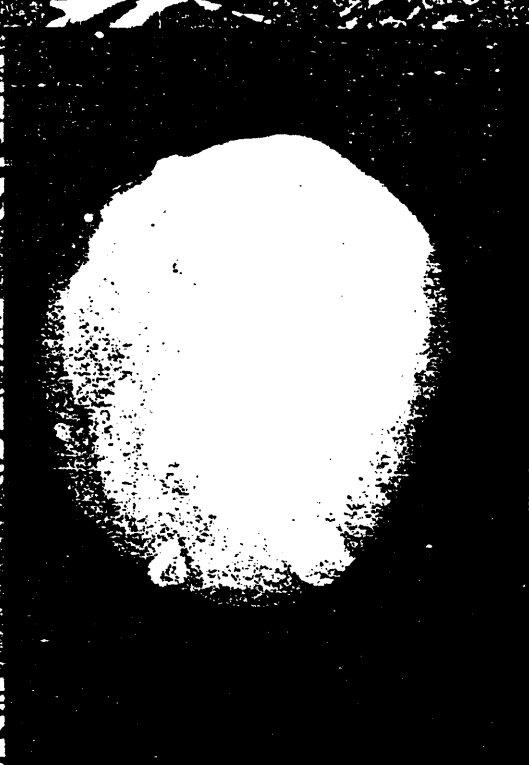
Radiation
from Iodine
Crystals,
'off tune'

Radiation
from Iodine
Crystals,
'on tune'

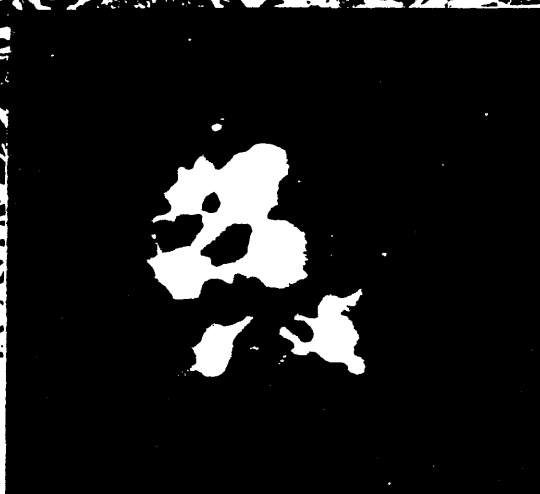


Radiations
from bottle
of spa water

Radiations from lily seed showing 'flower' part of life cycle



Radiations from horse
chestnut showing
fertility spots



Radiations from horse
chestnut showing
fertility spots at the
flowering stage of the
life cycle

EACH PORTION OF A MATERIAL CONTAINS THE WHOLE VRIL ARCHEFORM



Radiations from bottle of *Aconitum Napellus* pilules



Radiations from lily seed showing 'bulb' part of life cycle

THIS FACT ADVANCES THE NOTION THAT MATERIAL IS BUT A CASCADE IN SPACE:
A HOST AND BY-PRODUCT (AVALANCHE) RESULTING FROM VRIL RESONANCES
AND DETERMINED BY VRIL ARCHEFORMS AT THE VERY ORIGINS OF FORM.

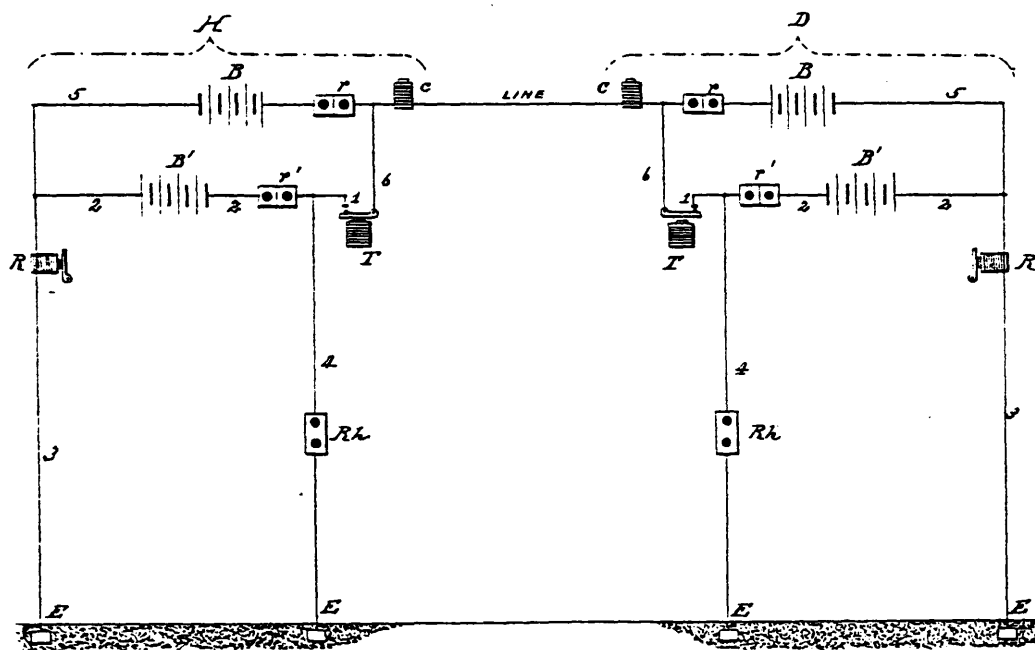
(No Model.)

G. S. MOTT.
DUPLEX TELEGRAPH.

No. 262,459.

Patented Aug. 8, 1882.

NOT EVERY VRIL STRUCTURE NEED BE STRUCTURED IN MATERIAL FORM.
VRIL DOES ENHOST MATTER AND EXTENDS ITS POTENT
PRESENCE THROUGHOUT AN AREA



BUT ALSO EMPLOYS THE MORE POTENT AGENCY OF THE EPHEMERAL
AND "VIRTUAL" STRUCTURES MADE THROUGH DEFINED
RESONANCES AND RATE-TUNINGS OF
SPECIAL VRIL TECHNOLOGY.

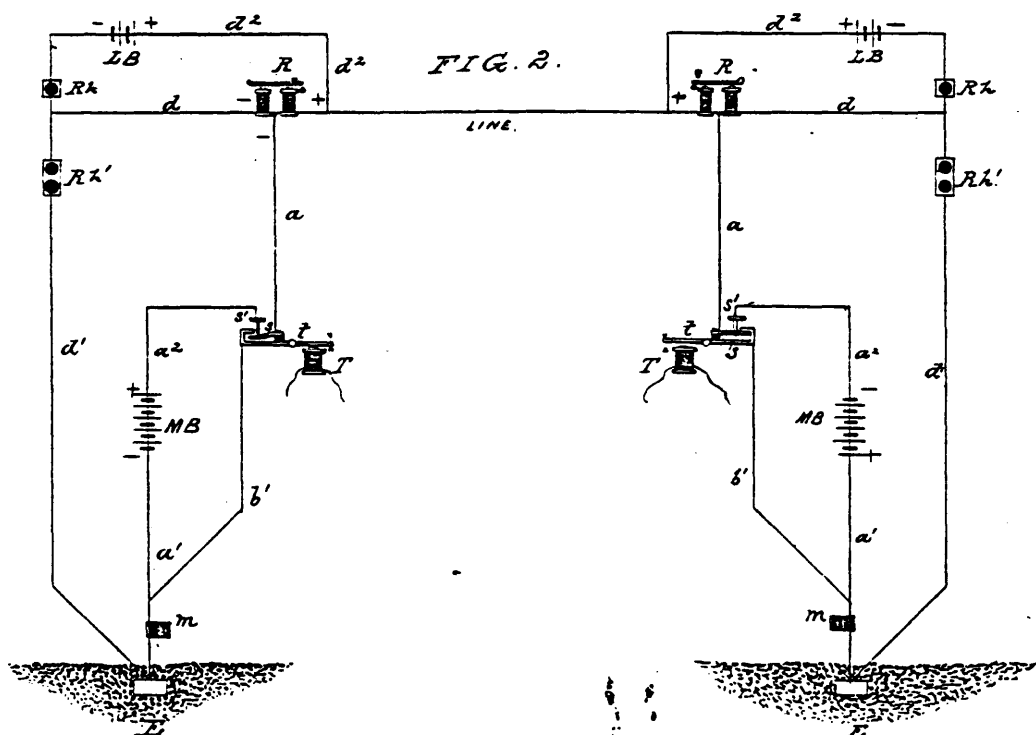
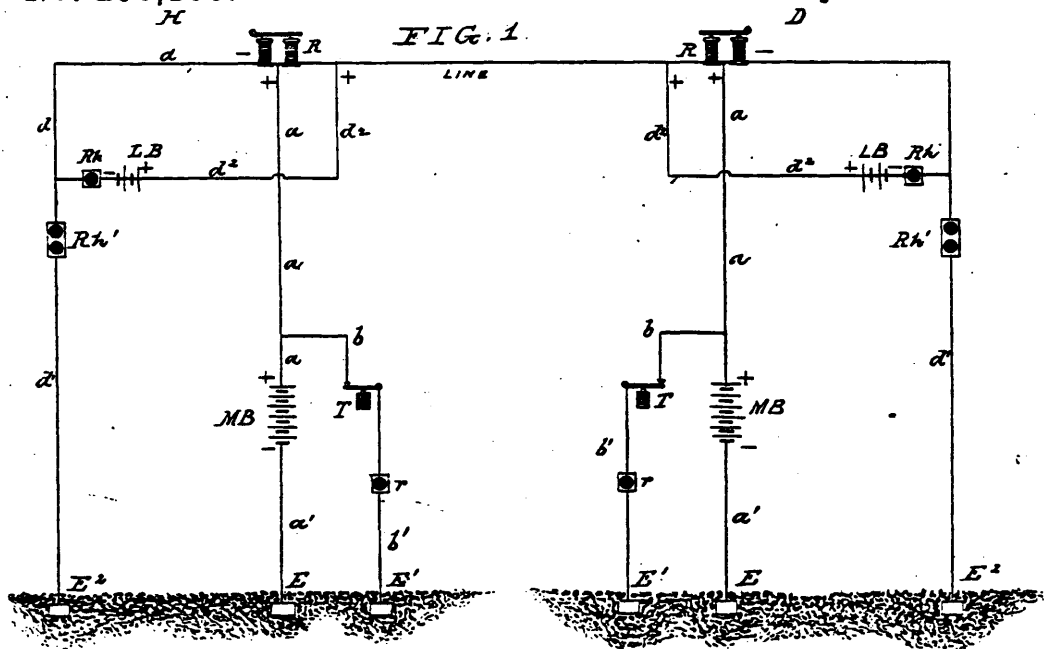
TELEGRAPHY WAS ONE RECENT SUCH NETWORK...A VRIL-ACTIVATED STRUCTURE
HAVING VIRTUAL ARCHEFORMS IN RESONANCE WITH ITS COMPONENTS

IN TELEGRAPHY WE FIND THE VERY FIRST INSTANCE IN WHICH
VRIL ARCHEFORMS COULD EFFECTIVELY BE ENTUNED, MODIFIED,
RESONATED, ENHANCED, MODULATED, AND RAISED IN STRENGTH.
(No Model.)

G. S. MOTT.
DUPLEX TELEGRAPH.

No. 258,103.

Patented May 16, 1882.

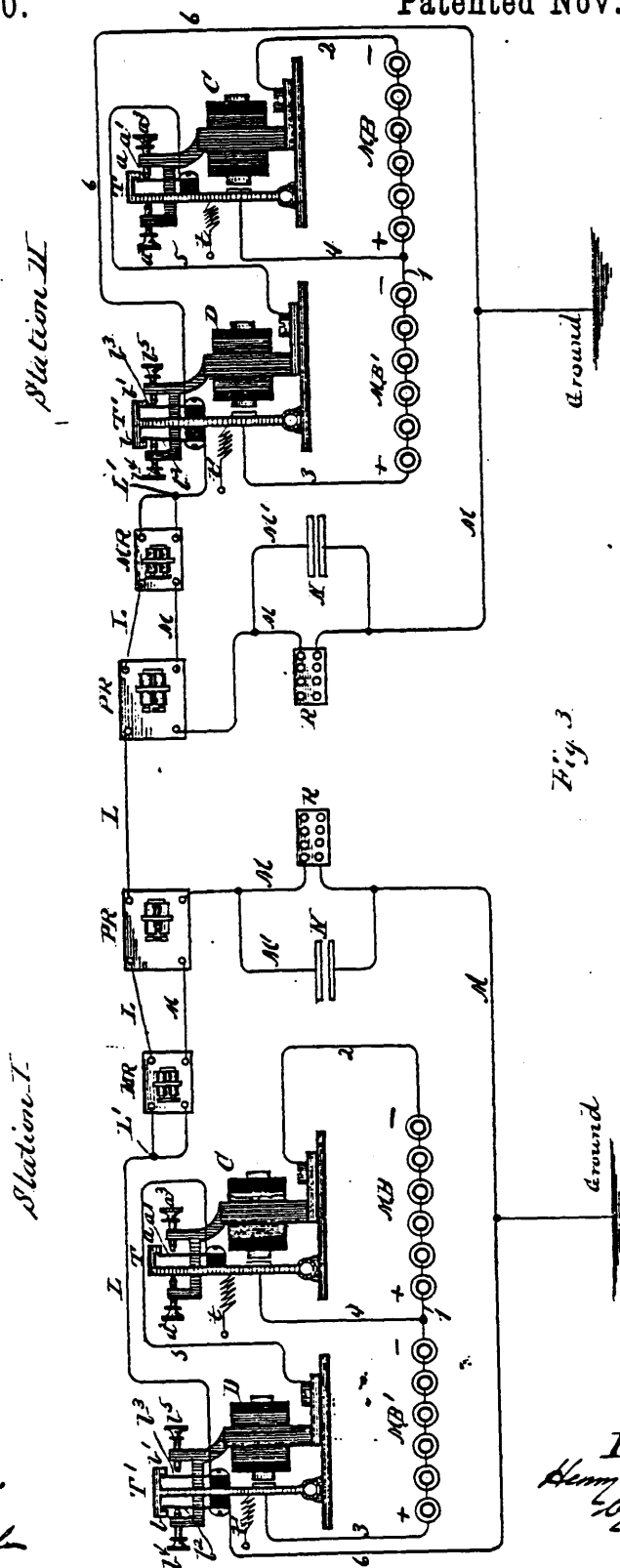


CAREFUL AND SENSITIVE EXAMINATION OF THESE TELEGRAPH SYSTEMS
REVEALS THE PERMEATING AND SUFFUSIVE VRIL STRUCTURES
WHICH THE SYSTEMS ENTUNE AND SUPPORT

3 Sheets—Sheet 3.

No. 249,080.

Patented Nov. 1, 1881.



THE RESEMBLANCE OF EACH TELEGRAPHY SYSTEM WITH GOTHIC
IS AN UNMISTAKABLE SIGNATURE OF VRIL

Witnesses:
L. S. Hyer:
L. S. Hyer

Inventor:
Hermie B. Nicholson
By his attorney
R. B. Bitt

M. RITCHIE, Brook-Laboratory, Washington, D. C.

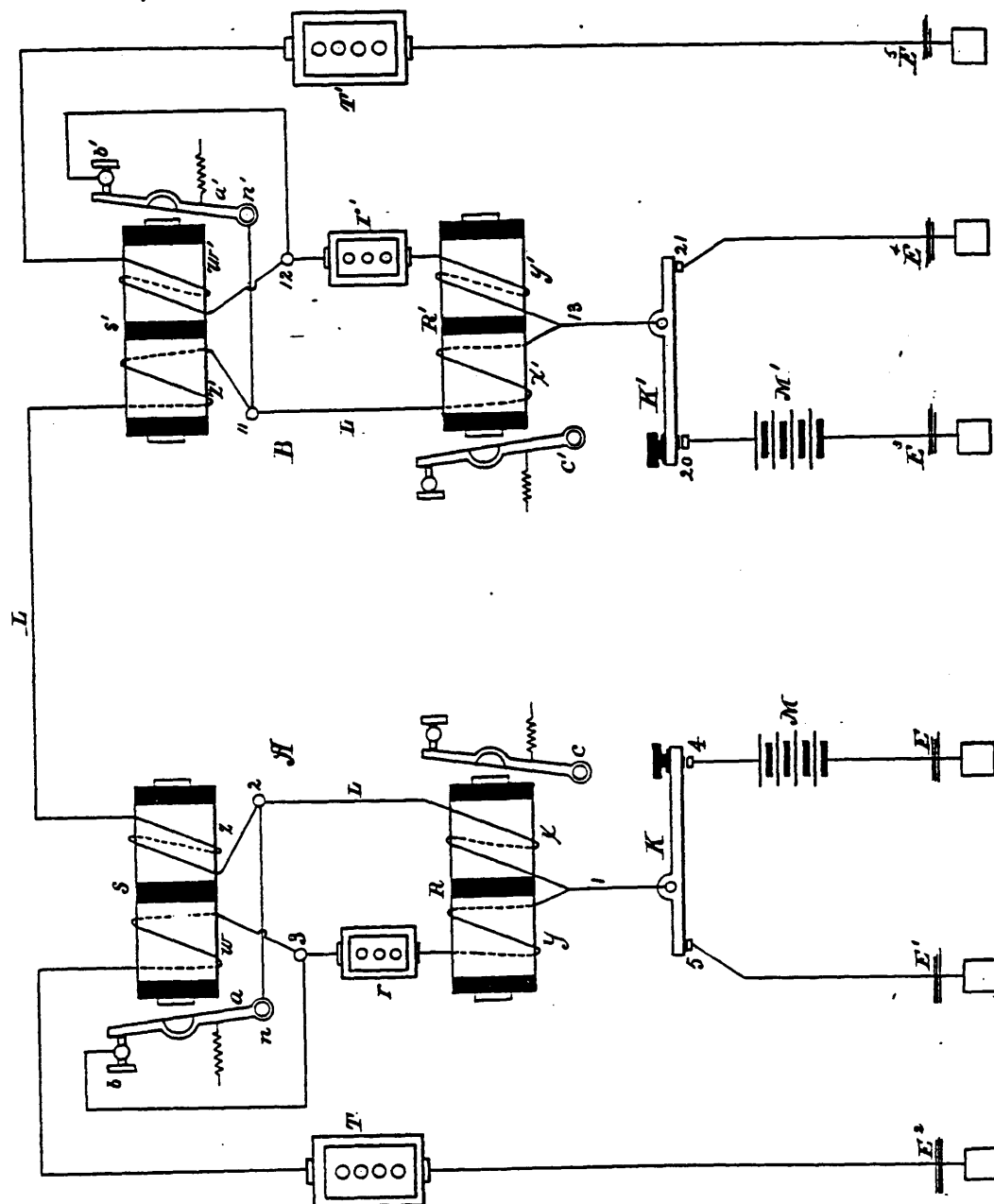
ÆTHERFORCE

(No Model.)

C. L. BUCKINGHAM.
DUPLEX TELEGRAPH.

No. 258,367.

Patented May 23, 1882.



WITNESSES:

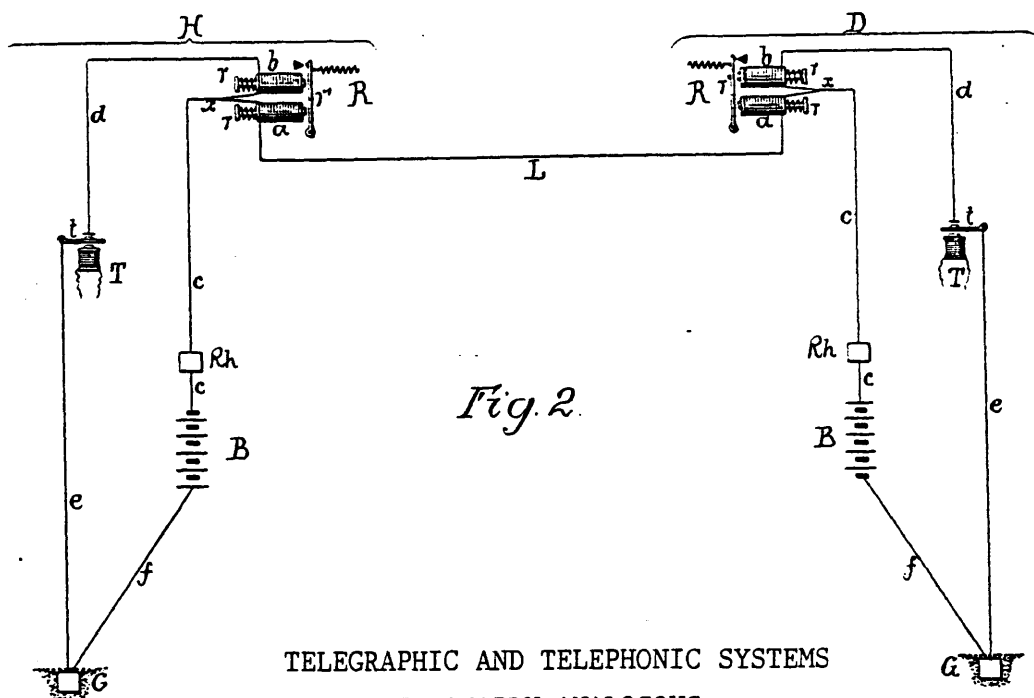
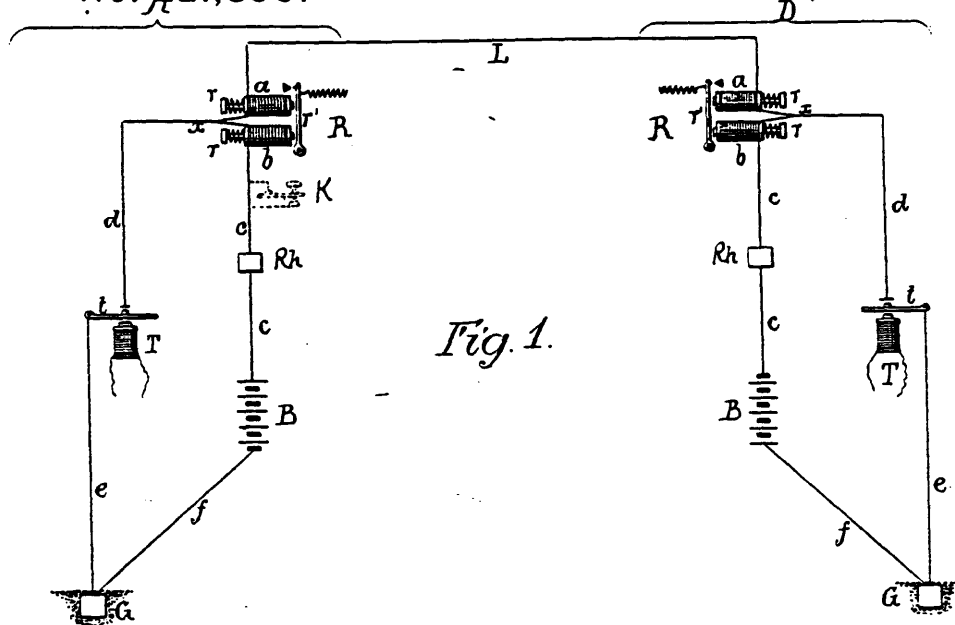
INVENTOR

WE ARE AMAZED TO DISCOVER THE ANALOGOUS FUNCTION OF GOTHIC ELEMENTS
WITH CIRCUIT COMPONENTS THROUGHOUT TELEGRAPHY

G. S. MOTT.
Duplex Telegraphs.

No. 221,850.

Patented Nov. 18, 1879.



TELEGRAPHIC AND TELEPHONIC SYSTEMS
ARE REMARKABLY ANALOGOUS
TO GOTHIC CATHEDRALS.
ONE IDENTIFIES THE VIRTUAL ARCHES,
VAULTS, COLUMNS, ARCADES, CHOIRS,
NAVES, AND EVEN (IN SOME INSTANCES)
CRYPTS...EARTH BATTERIES

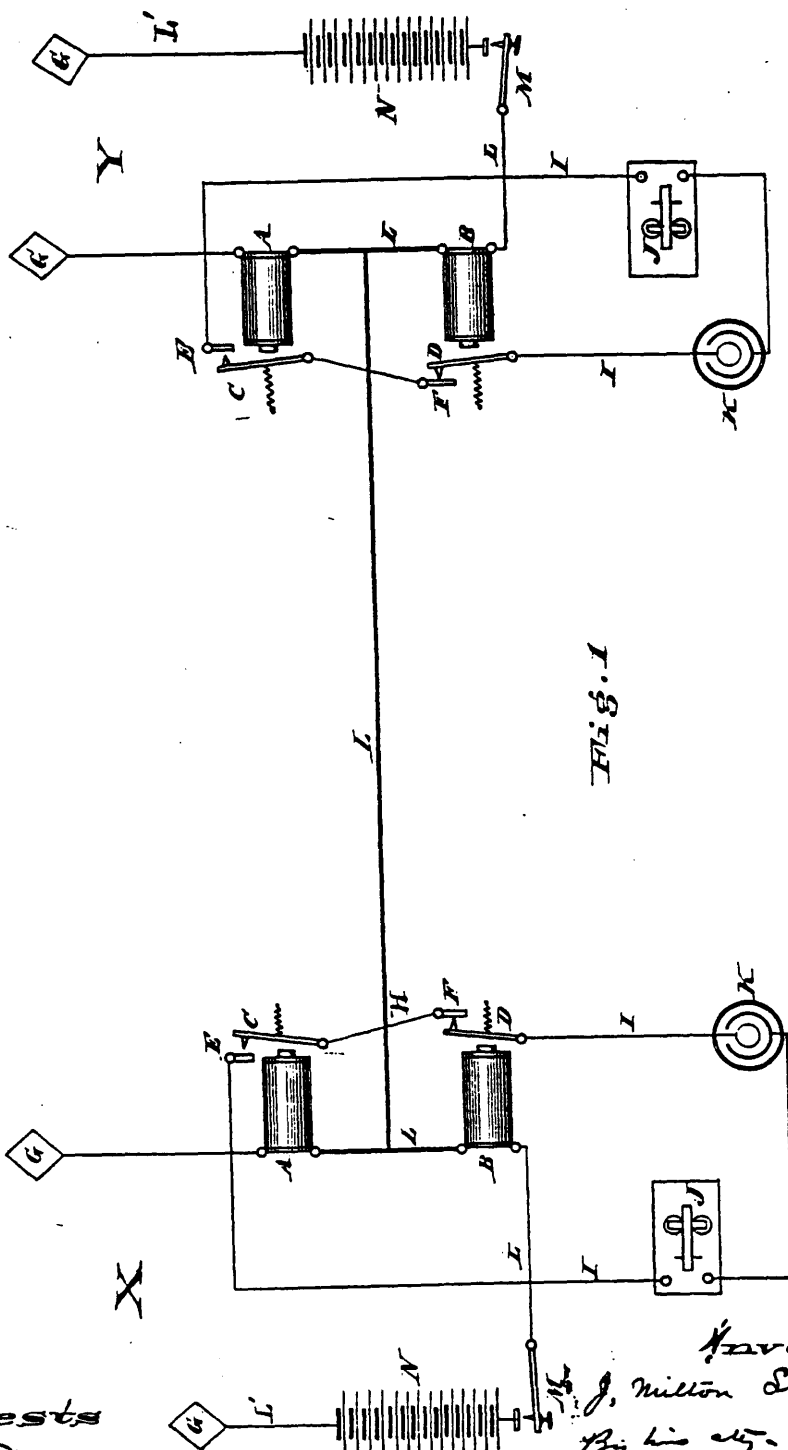
(No Model.)

2 Sheets—Sheet 1.

J. M. STEARNS, Jr.
Duplex Telegraph.

No. 243,410.

Patented June 28, 1881.



TELEGRAPHIC SYSTEMS TRANSLINK DISTANT STATIONS

WITH VRIL

THE EFFECTIVE ENCLOSURE OF STATION COUPLETS

UNDER A SINGULAR VRIL-ARCHEFORM

WAS A DISTINCT LEAP IN HUMAN

TECHNOLOGY

IN THIS TECHNOLOGY WAS REALIZED A DREAM UNTOLD:

STRUCTURES CAPABLE OF BEING FORM-MODULATED

Attests
Daniel
S. L. Minton

Inventor
J. Milton Stearns, Jr.
By his atty.
[Signature]

STATIONS ARE REALISTICALLY ENCLOSED IN
A SINGULAR VRIL STRUCTURE OF VIRTUAL

COMPOSITION AND POTENTIAL:
A VAST AND EXTENSIVE VIRTUAL CATHEDRAL SYSTEM
CAPABLE OF BEING ENTUNED, MODULATED,
AND TRANSFORMED

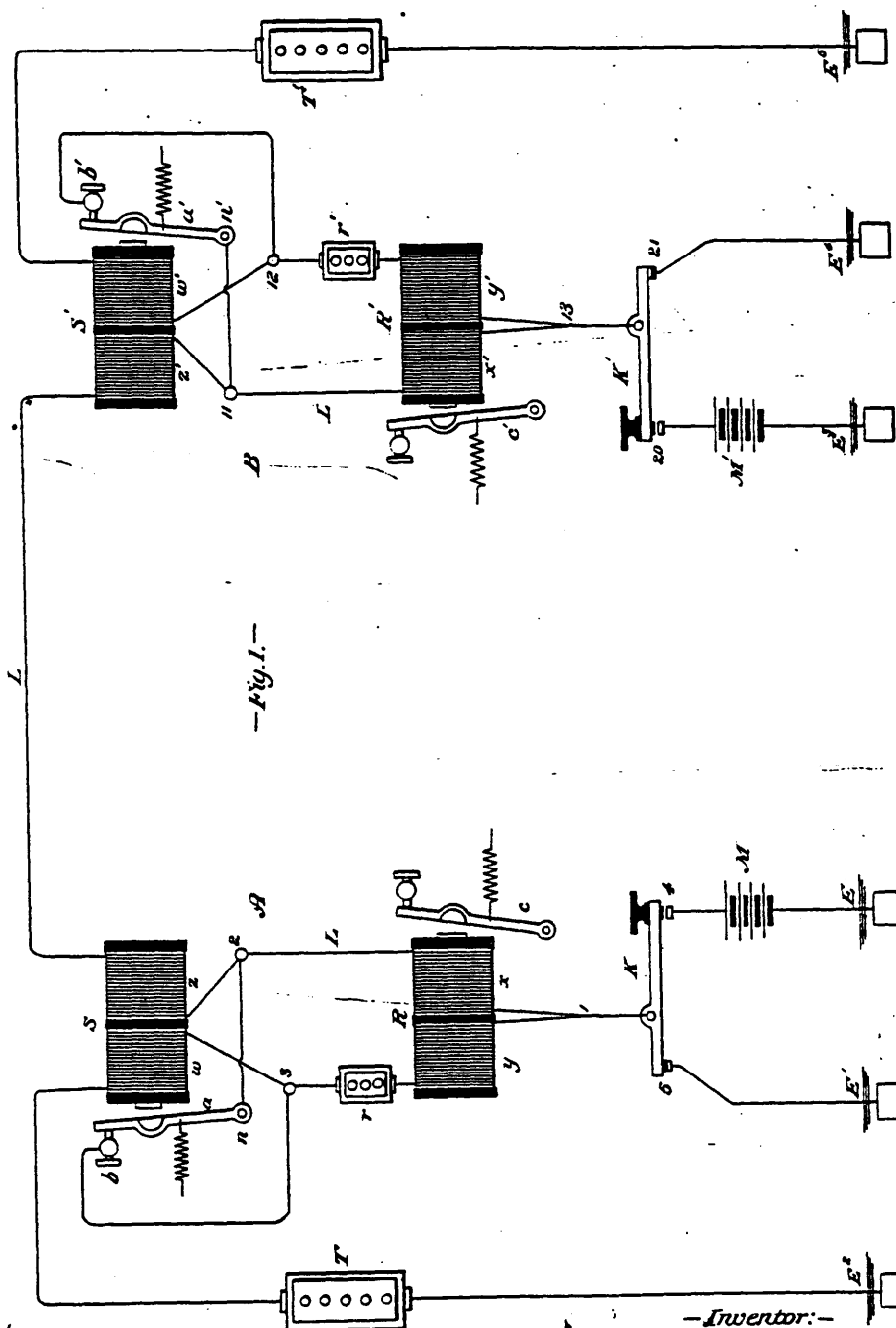
(No Model.)

2 Sheets—Sheet 1.

C. L. BUCKINGHAM.
DUPLEX TELEGRAPH.

No. 253,154.

Patented Jan. 31, 1882.



-Attest:-

R. J. Barnes
John C. Sanders

-Inventor:-

C. L. Buckingham

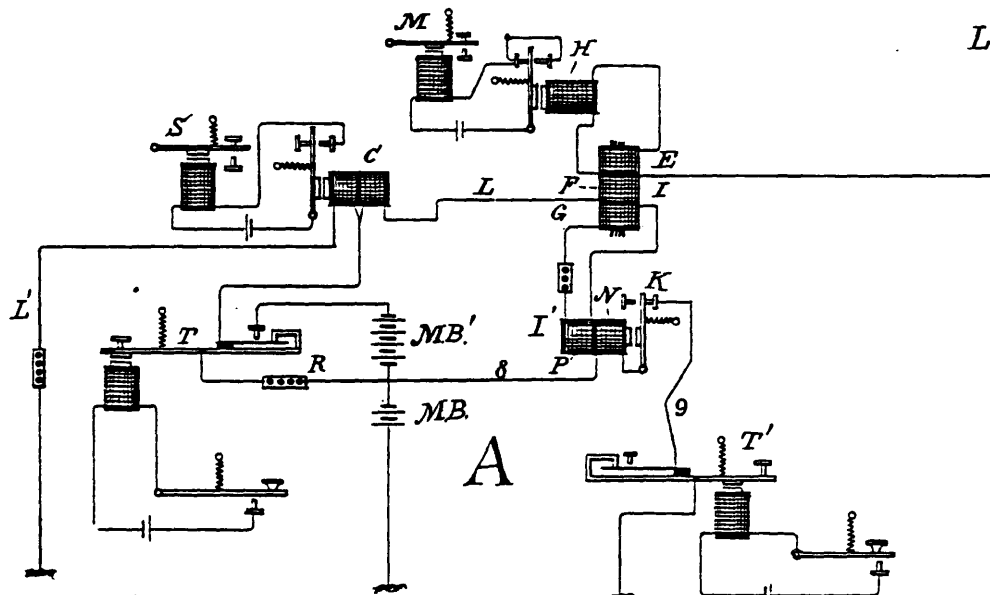
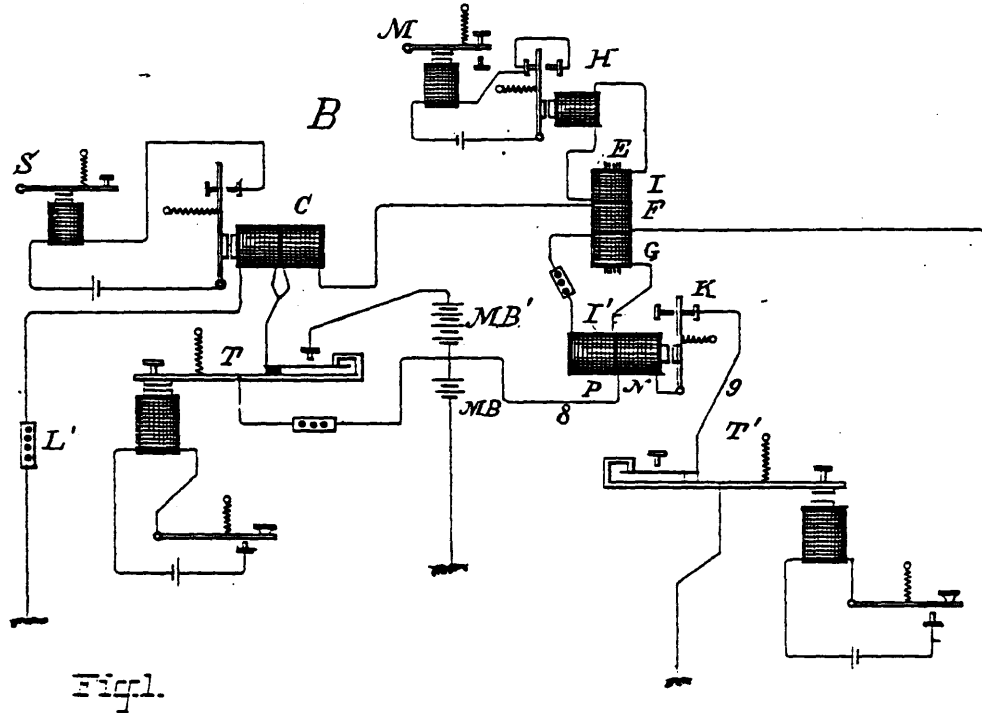
(No Model.)

2 Sheets—Sheet 1.

B. THOMPSON.
MULTIPLEX TELEGRAPH.

No. 265,645.

Patented Oct. 10, 1882.

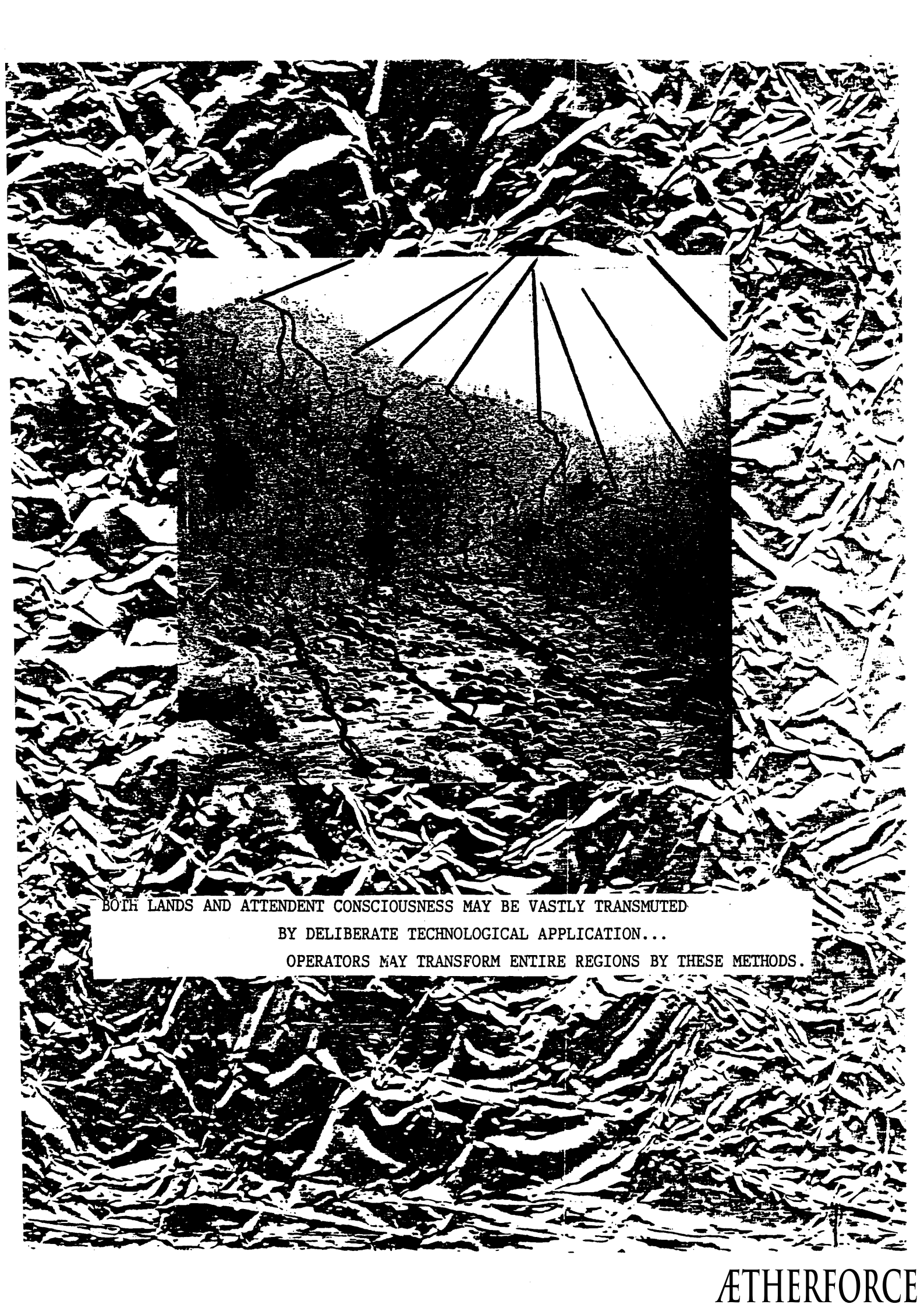


ATTEST:

J. A. Mudd
J. A. Mudd

INVENTOR:

B. Thompson
by R. C. Townsend
Att'y

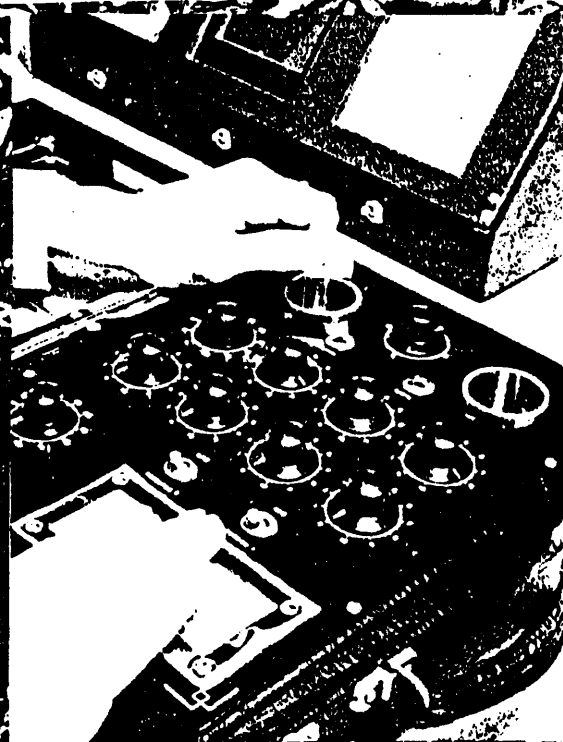


BOTH LANDS AND ATTENDENT CONSCIOUSNESS MAY BE VASTLY TRANSMUTED
BY DELIBERATE TECHNOLOGICAL APPLICATION...
OPERATORS MAY TRANSFORM ENTIRE REGIONS BY THESE METHODS.

ÆTHERFORCE



VIRTUAL FORMS WERE REALIZED THROUGH THE PROGRESSIVE REVELATION
OF RADIONICS...BY WHICH VIRTUAL STRUCTURES WERE AGAIN
REDISCOVERED:



HEREIN WAS REALIZED A PERFECT MEANS FOR OBTAINING
VRIL RESONANCE IN THE ABSENCE OF MATERIAL:

ETHERFORCE

Radiology In the Field of Mineral Deposits

By

A. STANLEY ROGERS and MRS. ROGERS
Kansas City, Missouri



TUNING THE GROUND WAS LATER REDISCOVERED BY T.G.HIERONYMUS AND S.RODGERS.

CARBON RHEOSTATS ENTUNE VRIL.

TELEGRAPHERS WERE ENTUNING VRIL WITH THEIR RHEOSTATS.

THE "STATIC INTERFERENCE" THEY OFTEN ATTEMPTED TO ERADICATE

WAS VRIL SATURATING THEIR SYSTEMS WHEN THE RHEOSTATS
WERE PROPERLY ENTUNED.

*Reprinted from the September, 1932, Issue of the Journal of the
American Electronic Research Association,
Kearney, Nebr., U. S. A.*

RADIOLOGY IN THE FIELD OF MINERAL DEPOSITS.

By A. STANLEY ROGERS and MRS. ROGERS, Kansas City, Mo.

Editors Note:

While the American Electronic Research Association is concerned chiefly with researches in the field of human life and health it is not without interest in the growth of the application of the truths and natural laws upon which E. R. A. are founded in the fields of agriculture, animal husbandry, chemistry and industry. The article presented herewith details certain observations in field work which may have an important bearing upon some of the problems of E. R. A. diagnosis and is therefore worthy of special study.

It will be a matter of surprise as well as interest to the majority of our members to learn to what extent Abrams' discoveries have been utilized outside of the field of medicine.
—O. M. H.

Radiology, as applied to field exploration, is the study of the laws governing the liberation and behavior of energy from a parent body through the processes of atomic destruction and radiation.

The first practical problem is to identify the specific kind of energy and know that it is that particular kind of energy.

It is not our purpose to go into a treatise of the science of atomic destruction, as the general theory of the emanation of energy from all matter is now taught in the average high school. The electron was first discovered as a subdivision of the atom upon the realization of the existence of motion in all material substance. Next came the identification of the proton, or central nucleus and positive charge which is opposite to the electron and, finally, the photon or third element of the atom, which is perhaps the balancing or uniting force of the former two parts.

Many books might be written lauding the fearless research and teachings of such men as Dr. Albert Abrams in establishing Truth, but the paramount factor in providing means for advancement in the study was effected by the invention by Abrams of

tuning devices of such windings and calibration as would pick up and identify waves from matter, which belong in the light-wave band. With the distribution of this kind of equipment, in this and several foreign countries, progress began through individual study and investigation by several hundred workers, each following his own trend of thought for experimentation.

The work of such men as Prof. Milliken, and the cooperation of the American Electronic Research Association, with its monthly publication of contributions, has fanned the flames of Progress until today the vast majority of the whole civilized world accepts the electrical nature behind all material existence.

The development of equipment has set the whole science on a firm foundation and the photo-electric cell is expected to do much that has heretofore required the technique of experts in the operation of tuning devices. Further encouragement was given individual workers by announcements from such institutions as Johns Hopkins University to the effect "that in the light of present knowledge, all matter in its last analysis is merely a wave." All this has tended to still the tongues of most of the pseudo-scientific critics.

The writer and his wife, who has been a close associate and inspiration through weary years of experimentation in the field, hereby humbly make a brief report and contribution, trusting that it may help someone grasp the beauty and significance of these laws so that they may be utilized for the benefit of the whole human race, or inspire some other careworn investigator to greater efforts.

In tendering this brief report we wish to meekly confess an unflinching

faith in a Supreme Being, making and maintaining these laws, and bow in reverence to the teachings of the Brotherhood of Love as set forth by Jesus, the Christ.

The writers have confined most of their studies of the behavior of energy, after being liberated, as of two substances, gold and oil, but were led to recognize certain laws governing the liberation and radiation of all matter in so doing.

In releasing some scattered findings we should not hesitate to give due credit and thanks to some who have encouraged and aided, among whom should be specifically mentioned, T. G. Hieronymus, Underground System Engineer for the Kansas City Power and Light Company and W. M. Longworth of San Antonio, Texas.

It was a simple operation to place an electrode on specimens of these substances and tabulate certain readings when waves were received from the manipulation of the tuning dials, and to work out tunings for direction when the specimen was removed from the proximity of the electrode; but to work out a mechanical detector such as Dr. Earl Smith and his assistants were known to be using, and to develop amplification to the factor of over 900 times and make same portable for field use, or learn the reasons behind certain failures of both our own and others, became a much larger undertaking and has required an expenditure of funds not taken into consideration. But by continued efforts in the field, slowly but surely there unfolded a set of fixed and immutable laws, always to be considered and reckoned with in making each finding. We were finally driven back to the science of physics for explanation of some behavior and finally to astronomy in accounting for deviation and deflection at different seasons and latitudes.

With understanding of these laws, the charting and diagraming of a normal condition became a detail, after which we were able to explain

variations from a normal condition due to unconformity, differences in formations, mineralization, faults, underground streams, and, in surface work, roots, creeks, bluffs, cracks, etc., and, further, we were enabled to develop equipment to make the energy perform according to our needs.

To properly carry on the work it became necessary to develop aids for the standard equipment, due to the fact that the original devices were not designed to handle the volume of energy found in the field work in connection with deposits which would be commercial in quantity to develop.

As we are always working hundreds and even thousands of feet away from the parent body, therefore the science of radiology, strictly interpreted, refers to the identification of the energy and the performance of the energy as governed by the laws of radiation.

The great secrecy which is so rigidly maintained by each field worker makes it necessary for someone to announce some experiments and their results. For example, a specimen of sterling silver, weighing five and seventeen twenty-fifths points on the machines, was buried in the ground at a depth of about two feet. A few weeks later over thirty-five points of energy was found and energy was identified for a distance of over seventy feet in all directions. This area became named by us as the magnetic field of energy and we set about to discover the reasons for its existence.

These forces, in the order of their opposition to each other are, first, light and gravity, building up a perpendicular pull; second, polarity, governing the north-south pull; and lastly, electro-statics, which runs at right angles to polarity and governs the east-west pull; hence, we have the three main directional forces with opposite attractions, that is to the positive and negative charge in all matter, creating a balancing condition and operating to build up a gravitational and electrical field which was

the subject of Prof. Einstein's lecture in Los Angeles, California a few months ago.

Energy is not liberated to travel in these six directions as above outlined until demagnetization takes place by the action of light and air, and perhaps other conditions, and as natural demagnetization is found to be exceeded by atomic destruction, this magnetic field of energy is found to accumulate when the energy reaches the surface of the ground. We have further deducted that all that is changed in the demagnetization process is the photon, for we find no loss of the positive and negative charge after energy is liberated from the magnetic field; when studied, even for a distance of about three miles north of the true location, the positive charge is found to be intact. It will be seen later how the photon is carried out in the different light-wave bands and betrays the presence of that kind of energy in that locality.

Many mistakes have been made and the expenditure of a great deal of money resulted from the erroneous assumption of radiologists that "energy liberated in the earth rises perpendicularly to the surface." This cannot possibly happen except directly over the equator at a time when the sun and other influencing planets are in a certain position with relation to the earth, or the earth in a certain position with a relation to them; but due to the varying motions of the earth, and even an actual wobbling motion, that time is purely a theoretical one. In actual field work, calculations must always be made to get an accurate location and actual manipulation of the energy carried out to prove the location of the parent body. It is thought after several years of field experience that even by this method a small percentage of failures will result when confronted with handling energy from great depths where mineralization, faulting and underground streams interfere. An experienced radiologist will know

however from the manipulations that he is confronted with interference.

In the field we are often called upon to explain why directional tuning can be effected. Now, if in the natural demagnetization process only the photon, or light charge, is disintegrated the next step is easily taken as to why we can do directional tuning.

It is well known that a ray of light reaches the earth carrying three primary and three secondary colors and that something happens to these light waves when they reach the earth, in the way of absorption, deflection or radiation. With our apparatus we find these colors separated and deflected according to their polarity and that they travel along the surface of the earth, and in the air in a set, specific direction and no other. These colors are of different wavelengths and require different tunings. The three primary colors, being positive in polarity travel to the north, northeast, and northwest, respectively, while the secondary, being negative, travel south, southeast and southwest. With our equipment we could prove the polarity and wavelength by checking the same color in any substance but this did not explain why we could bring energy from the east and west on other related tunings on our sets. We finally decided that the two colors carrying energy in these directions run in the electro-static bands and hence we have an explanation of the eight point tuning and an attachment was worked out to give wider latitude for variations to the right and left of these points. Slowly to the student unfolds the realization of the energizing of the soil in each locality and its fixed relation to the whole earth as one huge magnet, so that a soil specimen taken is merely the process of breaking off a small piece of any bar magnet, which gives us as a result only a smaller magnet but a true reproduction of the larger.

Some operators in the field are employing the law of affinities to bring



a wave into their sets by placing a specimen of the substance being studied in the circuit. Their reason for this is their discovery that in tuning they are confronted with interference from other substances. This practice will surely bring in a wave but their failure to understand what is happening within the circuit is apparent. In our sets many perpendiculars are created in the process of tuning and the negative charge, as fast as it is liberated, drops to the bottom of the long space provided by the long binding screw and the top of screw spreads out to give more surface for the tuning post and provides a great radiating surface for the small amount of energy we are actually handling. Demagnetization is going on constantly and the tuning posts are hastening the process. The negative charge, being heaviest, unbalanced portions of same rush back through the circuit to the ground where they belong and even the positive follows in part for it too belongs in the earth. And this returning energy will connect up with and bring in any and all unbalanced waves of the same substance which are in the locality, such as from pipe lines, oil tanks, and filling stations in the case of search for oil and from banks in neighboring towns in the case of gold surveys. The operator, who has not sufficient equipment and does not know how to build up the tunings for the three different substances that make a true wave, and to build up an equation on the principle of the band-pass filter, is practically helpless in the field.

It has been found that after a certain period of time has elapsed the positive and negative portions of the magnetic field divide or split and start in the direction of their respective poles, causing in effect the shedding of the old magnetic field, after which another with lower volume readings begins building up in the already energized area and with the accumulation of liberated energy spreads in size. The split or division

of the old field having taken place before complete demagnetization has taken place, floats and slips away from the true location only to be stopped by mineralization or contact with other unbalanced portions of fields of like substances. The inexperienced operator in the field picks up these old unbalanced portions and not having equipment and knowledge of how to eliminate them, immediately thinks that there is still a great untouched reserve of the substance which he is looking for left in the earth. Only experience can help him in this situation as we have found that the unbalanced wave will still come through built up in the equation of eight or ten on the band-pass filter principle. Further there is no single tuning in the field of nature where we have studied that other substances will not come in on the same tuning.

But the greatest error, which we have found in all field work and the hardest to overcome and get away from, is the assumption of the operator that he can make a new location because he can demonstrate from soil analysis from a producing well or an open shaft taken on the surface, which he has never seen.

This was one of the easiest operations which the writers learned to do because we knew it could be done but it kept us longest in the darkness of the real problem of making a location.

When an operator makes this location demonstration from a well or shaft, in the case of the well, a hole has been drilled into the sand to puncture it and a steel pipe run into the hole. This casing naturally conducts the energy to the surface, setting aside the laws governing the drift of the energy as it rises to the surface under the pull of the photon toward light, being all the while deflected by polarity and electro-static. This is true of the hole or shaft admitting water and light, for in each case the photon is given the advantage and acts. We call these demonstrations



the "telephone method" but a location must be made taking into consideration Nature's broadcasting laws. It is too bad for us field workers that making a location is not so simple a process as making a demonstration. If it were there has never been anyone who has yet pictured the supply of oil that would now be in evidence during our slowly improving oil ailments. Such a demonstration merely gives the employer confidence or makes an early operator of equipment go out and spend his own money as we did. But new locations made by the same methods will invariably result in failures (for which we have paid our share to learn) except in cases of accidental hitting of production, in which case the deposit encountered will never be the one being studied by the radiologist.

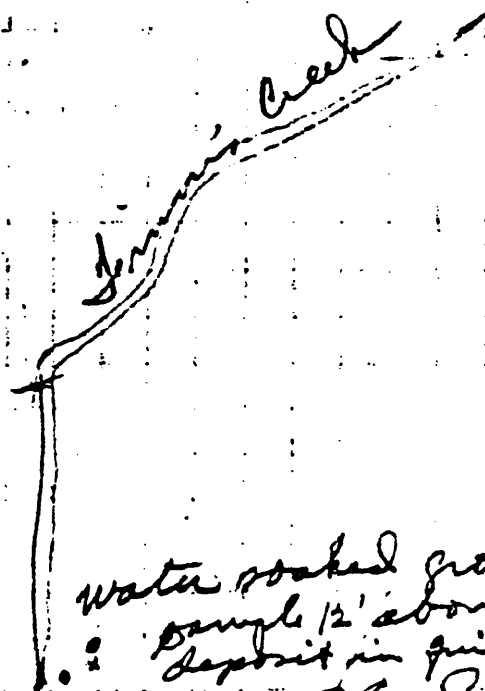
It is not our purpose to condemn by this writing any of the efforts of our competitors, who are, so far as we know, sincere and honest in their every endeavor; but we will state herein, and without reservation, that if he condemns these discoveries, this puts on him to go to the field and toil for several years and learn more about what he is trying to do, for handling energy from a specimen in the laboratory, properly insulated and demagnetized after running each test, is not the problem with which he is confronted when he goes to the field. His failure to grasp the significance of the difference in his problems will leave in his wake a long list of failures and disappointments in the science which we love and are wedded to and desire to protect. Discovery of the reasons for failure of the 'telephone method' has personally cost the writers in excess of \$50,000, but this, however, is a small sum compared to the sacrifices of some of our honest competitors who still adhere

blindly to the old methods used to demonstrate.

For this and many reasons the writers are weary of demonstrations having done so through five states in as many years, and satisfactorily where contamination had not resulted, and realizing that a perfect demonstration does not prove that the radiologist has skill to go to the field and perform a service by grasping the problems which confront him on each particular location, block out counterfeit waves, unbalanced waves of the same substance, read, chart and give his findings for a particular area. Successful surveys can only be made by running of many elimination tests after a preliminary survey shows positive. A field crew under the direction of the radiologist, who must know what he is trying to do, is the correct answer.

Success has always been based upon the judgment used by the employer in picking the right man for the work to be performed and in planting faith in and responsibility upon him. We live by faith, whether it be in the food we eat, the lawyer, doctor, dentist, broker and others we employ.

If you select the wrong man, learn your lesson and hold your peace. In the last analysis it is your own bad judgment which should be condemned and licenses, reputation and examining boards can never remove this responsibility from your own shoulders. If you are doing this work in the field, learn what you are trying to do, for there is need for many of us, but if you are still learning, one failure under the demonstration method should be enough to drive you to other methods or secure more efficient help than you can furnish. The great lessons of this life are learned from sifting the chaff to find the grains of truth.



water soaked ground
sample 12' above river bed
deposit in quicksand
Blackwater

Additional Rates (taken from publications and many
not verified by us)

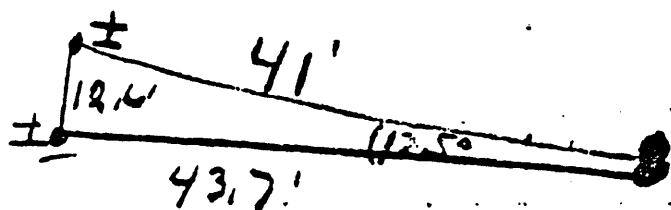
For use in starting equations if you have occasion to work
same out:

Sulphur	39
Sodium	45
Magnesium	46
Calcium	47
Iron	52 >
Potassium	54
Silicon	60
Phosphorous	83
Flourine	84
Carbon	87
Hydrogen	63
Oxygen	64

8-21-22

Silver builds out 41' to R.S.
West 12.5° to first point of observation.

Iron is 43.7' out and 12.6' south.



Iron is 12.6' less
than 12.5' to R.S. west

10.	1.	1/25
Material	Direction	Distance

12.5' per dial point = 312.5'

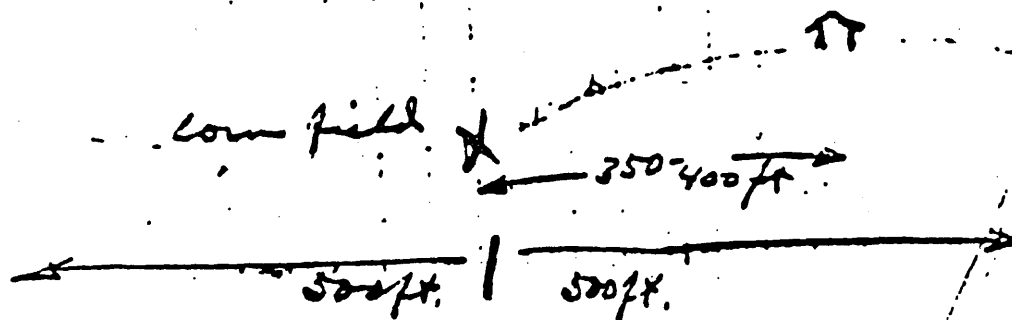
When getting direction use middle dial
for general direction & 1/25 dial for left
or right values.

Sample No. 2.

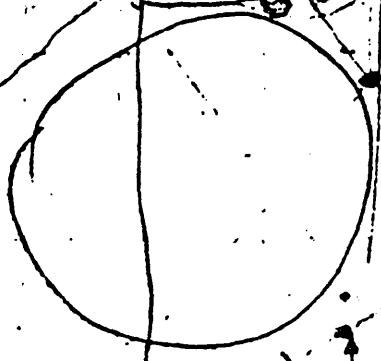
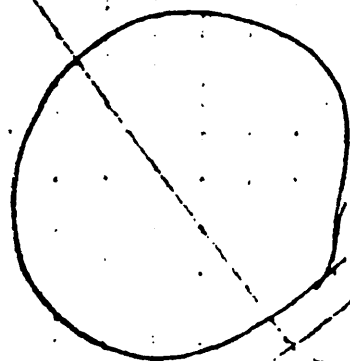
Steinwall place

check for gold near mountain

check all directions.



SE



NES'

ls



3

2

Corrections

9-30-32

Page 20 (chart) — No 9 machine — 10" should be on units dial.

Question

9 in tuning for a field of G. ene
When distance is so great that #7 machine
25th dial is not enough and another unit
is to be used, what is setting for 10 on a
units dial on the addl. machine?

Refer to page 24 (chart) blocking
~~that~~ Explain in detail

Refer chart page 19.

Explain — 9s neg. energy always
same no. points below karat that
energy is above? e.g.

$$\begin{array}{r} 18 \\ 21 \\ 24 \end{array} \begin{array}{r} -3 \\ -3 \\ -3 \end{array} \left. \vphantom{\begin{array}{r} 18 \\ 21 \\ 24 \end{array}} \right\} \text{differ}$$

(2)

Why is #5 machine used for resistance? see chart page 30 -
Why not do that ahead of the
directional machines?

Give a set of do's & don'ts for
relationship of machines - e.g.
in blocking, in vacating machine
for addl. distance - for addl. dyth

Archard Sample No. 1.

deposit should be within 500 ft from sample.
Sample from top of gradual sloping hill top. No rock ledge
or stream.

Comfield
Sample No. 2 - check for gold & silver

deposit probably within 500 ft of sample
in corn field - rolling ground - no
rocks or stream.

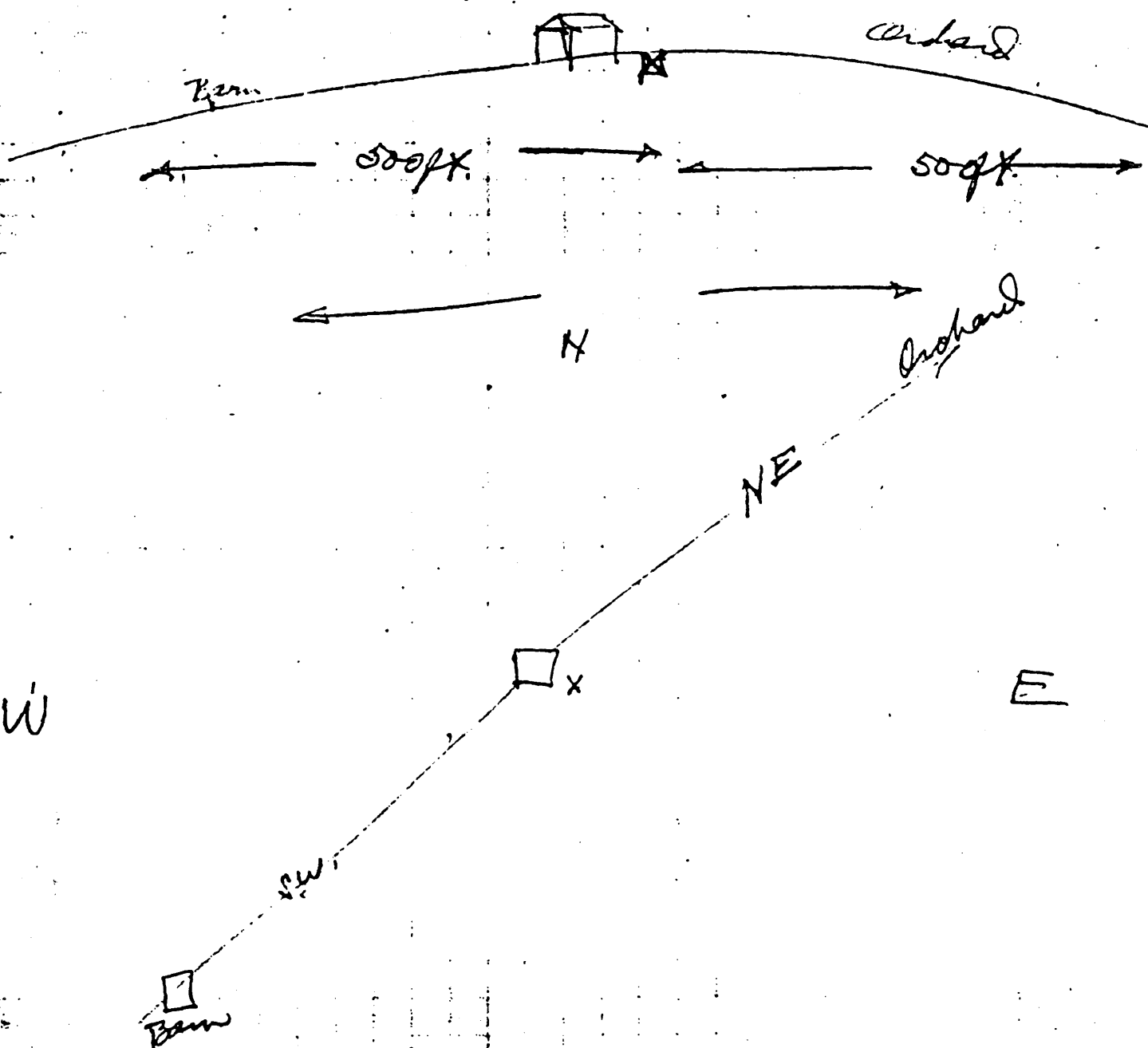
Quinch sand - Sample No. 3.

In quinch sand & water
check in water first & ground next.
Block 150 ft.

check for gold money
deposit should be within 100 ft of sample
give probable depth of deposit.

Table - Orchard Sample No. 1)

Colecamp,



-1- Radiology

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-2- Radiology

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But the greatest error, which we have found in all field work and the hardest to overcome and get away from, is the assumption of the operator that he can make a new location because he can demonstrate from soil analysis from a producing well or an open shaft taken on the surface, which he has never seen.

-4- Radiology

This was one of the easiest operations which the writers learned to do because we know it could be done but it kept us darkness of the real problem of making a location the longest.

When an operator makes this location demonstration from a well or shaft, in the case of the well, a hole has been drilled into the sand to puncture it and a steel pipe run into the hole. This easing naturally conducts the energy to the surface, setting aside the laws governing the frift of the energy as it rises to the surface under the pull of the photon toward light, being all the while deflected by polarity and electrostatic. This also is true of the hole or shaft admitting water and light, for in each case the photon is given the advantage and acts. We call these demonstrations the 'telephone method' but a location must be made taking into consideration Nature's broadcasting laws. It is too bad for us field workers that making a location is not so simple a process as making a demonstration. If it were there has never been anyone who has yet pictured the supply of oil that would now be in evidence during our slowly improving oil ailments. Such a demonstration merely gives the employer confidence or makes an early operator of equipment go out and spend his own money as we did. But how locations made by the same methods will invariably result in failures (for which we have paid our share to learn) except in cases of the accidental hitting of production in which case the deposit encountered will never be the one being studied by the radiologist.

It is not our purpose to condemn by this writing any of the efforts of our fellow competitors, who are so far as we know, sincere and honest in their every endeavor but we will state herein and without reservations that if he condemns these discoveries, yet expects to get accurate results, then his is the responsibility of going to the field to tell for several years and learn more about what he is trying to do, as handling energy from a specimen in the laboratory, properly insulated and demagnetized after running each test, is not the problem with which he is confronted when he goes to the field. His failure to grasp the significance of the difference in his problems only will leave in his wake a long list of failures and disappointments in the science which we love and are wedded to and desire to protect. Discovery of the reasons for failure to produce after successful demonstrations by the "telephone method" has personally cost the writers in excess of \$50,000, but his, however, is a small sum compared to the sacrifices of some of our honest competitors who still adhere blindly to the old methods used to demonstrate.

For this and many reasons the writers are weary of demonstrations having done so thru five states in as many years and satisfactorily where contamination had not resulted, and realizing that this does not prove that the radiologist has skill to go to the field and perform a service by grasping the problems which confront him on each particular location blockout counterfeit waves, unbalanced waves of the same substance, read, chart and give his findings for a particular area. Successful surveys can only be made by running of many elimination tests after a

-5- Radiology

preliminary survey shows positive. A field crew under the directions of the radiologist, who must know what he is trying to do, is the correct answer.

Success has always been based upon the judgement used by the employer in picking the right man for the work to be performed and in placing faith and responsibility upon him. We live by faith, whether it be in the food we eat, the lawyer, doctor, dentist, broker and others we employ. If you select the wrong man, learn your lesson and hold your peace. In the last analysis it is your own bad judgement which should be condemned and licenses, reputation and examining boards can never remove their responsibility from your own shoulders. If you are doing this work in the field, learn what you are trying to do for there is need for many of us; but if you are still learning, one failure under the demonstration method should be enough to drive you to other methods or secure more efficient help than you can furnish. The great lessons of this life are learned from sifting the chaff to find the grains of truth. Publicity and economic conditions will drive each of us to greater efficiency thru more knowledge of the work and better equipment.

As we have seen no effort to make any of the field problems public, yet having definite knowledge that many of the operators of our equipment are using same in field work, we tender this report with the sincere desire that it will be of help to some.

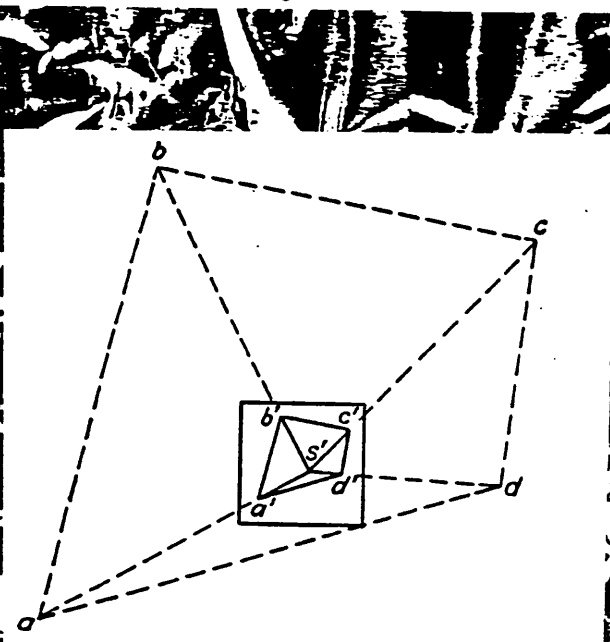
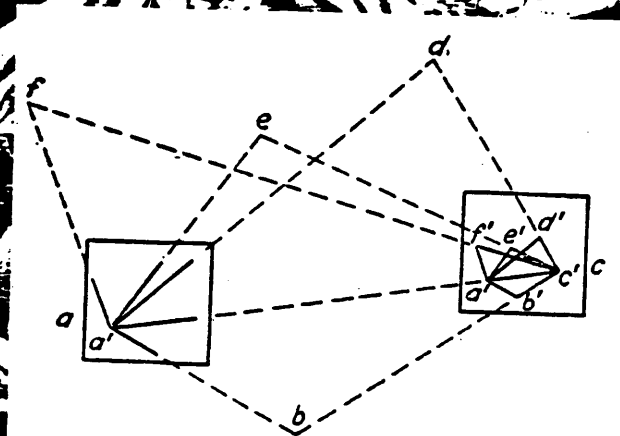
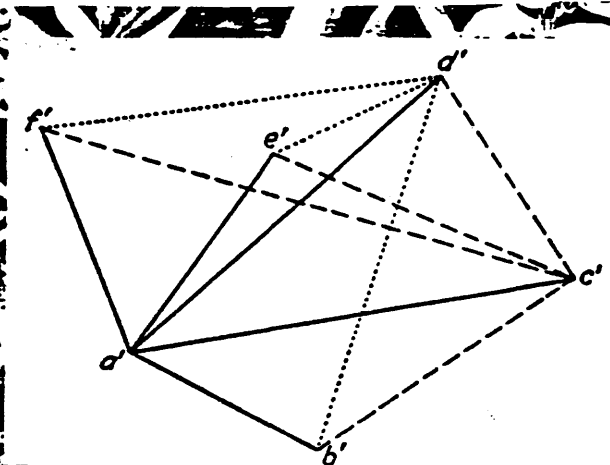
Respectfully submitted,

ROGERS & ROGERS,

GROUND VRIL RESONANCES MAY BE ENTUNED AND EXTENDED VASTLY.

NATHAN STUBBLEFIELD DISCOVERED WHAT NO ONE HAD REALIZED:

THAT VRIL COULD BE MODULATED DIRECTLY THROUGH RHEOSTATIC TUNING
AND SPECIAL BURIED RESONATORS.



WITH AND THROUGH SUCH TECHNOLOGY WE MAY EXTEND CONSCIOUSNESS...

BY STRUCTURING VIRTUAL VRIL CRYSTALLOGRAPHIES

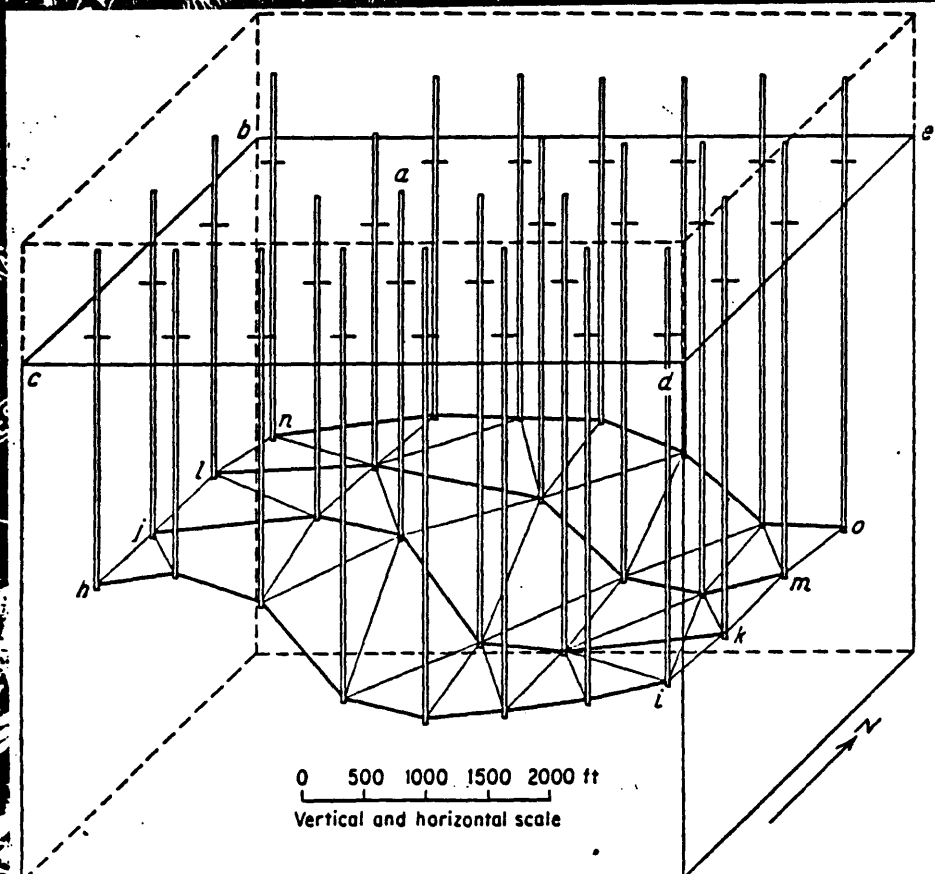
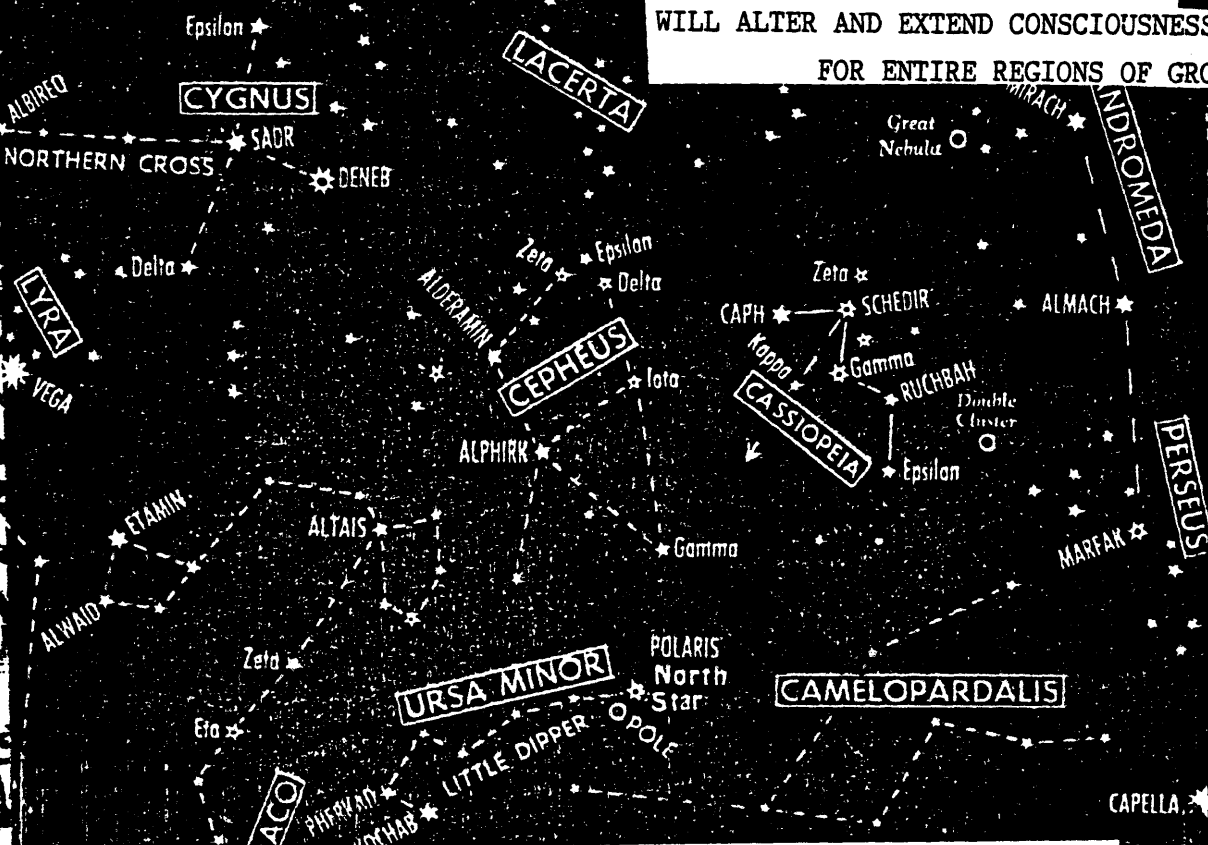
DIRECTLY TO THE STARS.

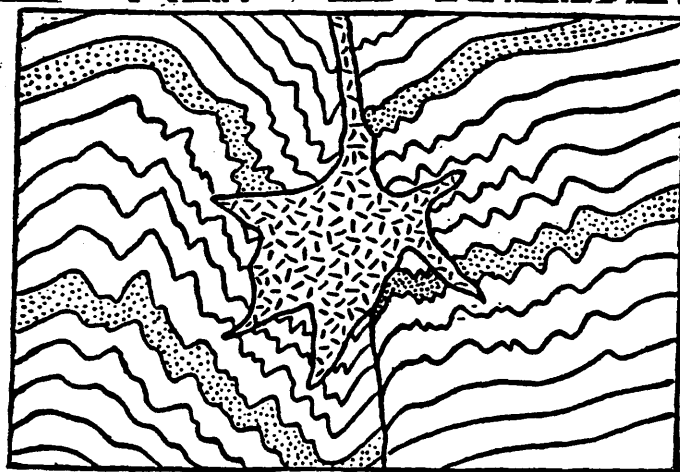
WITHOUT MATERIAL ENCLOSURES OR SUPPORTS WE MAY FORM

STRUCTURES WHOSE POTENT TRANSMUTING EFFECT

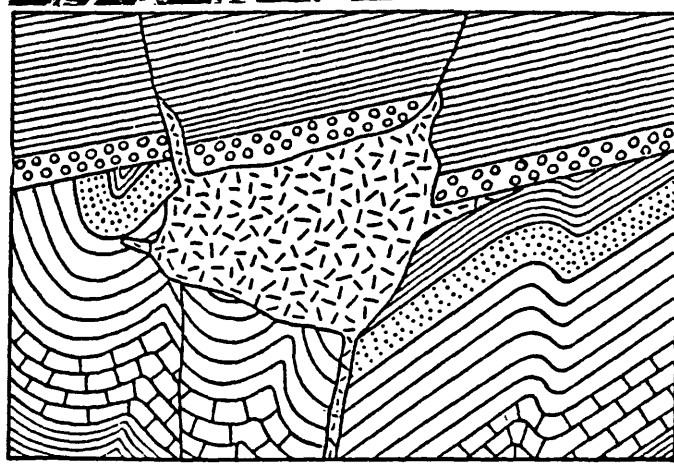
WILL ALTER AND EXTEND CONSCIOUSNESS

FOR ENTIRE REGIONS OF GROUND.

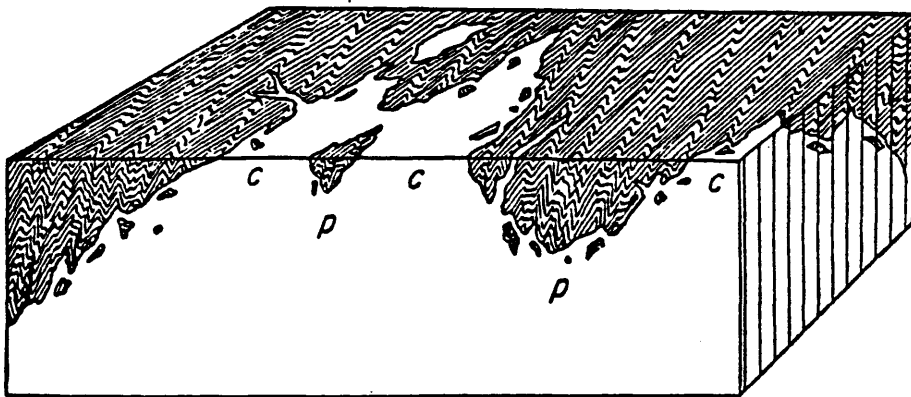




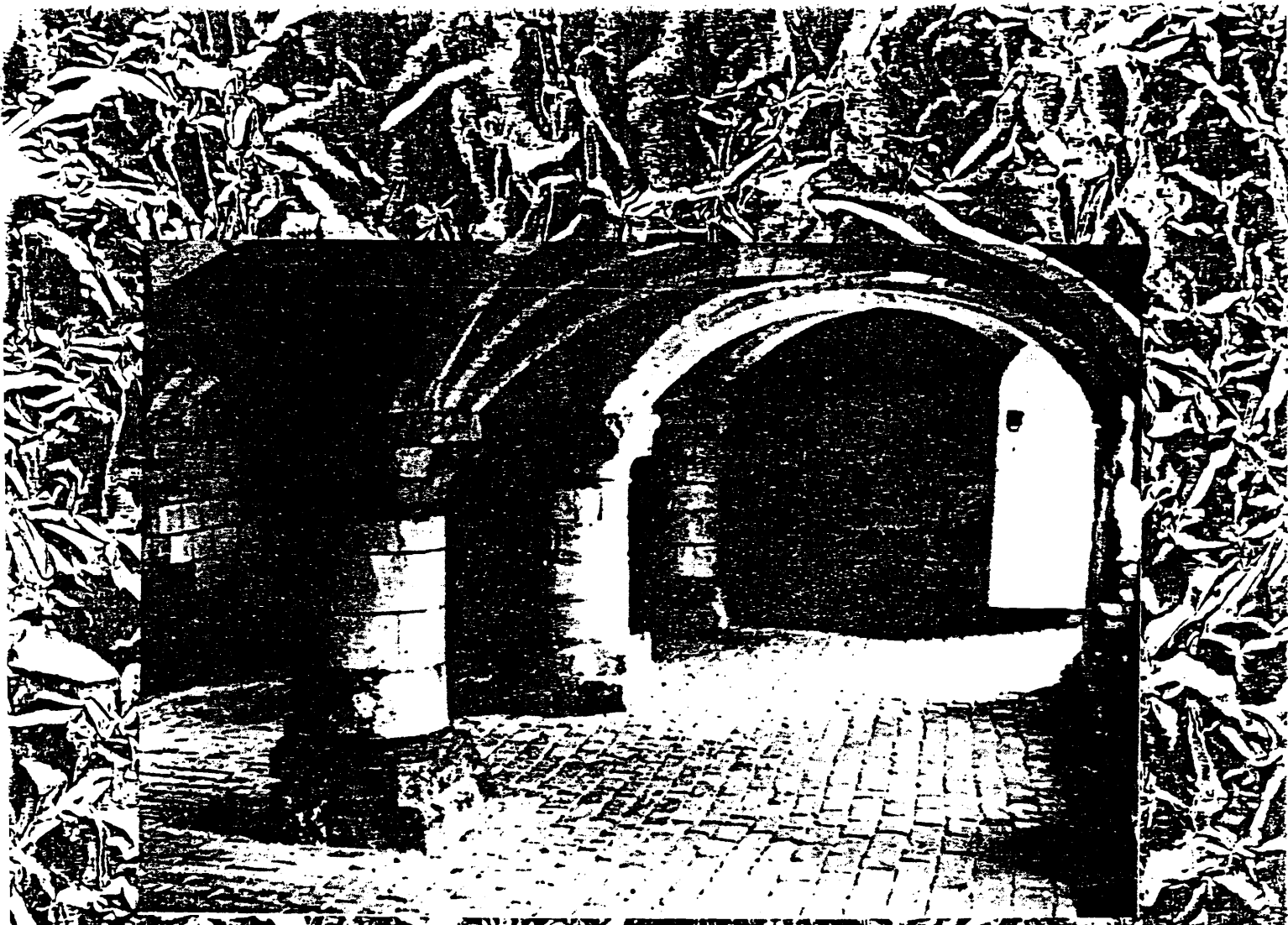
VRIL PROJECTS EIDETIC WORLDS INTO THE INERTIAL WORLD INFRA-STRUCTURE
 METAL LODES, CRYSTAL CAVERNS, AND MINERAL DEPOSITS ARE GENERATED AND BUILT UP
 THE CHARACTERISTIC GENERATIVE FORM IS DENDRITIC
 METAL LODES RESEMBLE GANGLIA
 MINERAL DEPOSITS ARE VRIL RESONANT IN SPECIFIC TEMPLATES OF ACTIVITY
 GENERATIVE TEMPLATES ARE SURMOUNTED WITH OTHER VRIL TEMPLATE CONTINUITIES
 SURMOUNTED VRIL TEMPLATE ACTIVITIES RELEASE SURFACE VRIL DISCHARGES



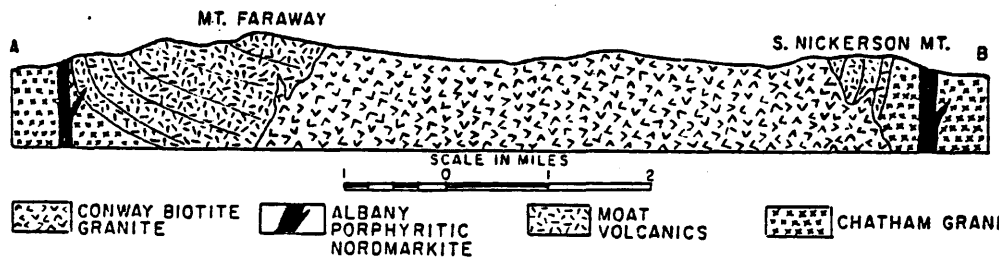
VRIL COMPONENTS AND INERTIO-DETRITAL ENTOURAGE PROJECT INTO DISTRICTS
CHEMICAL REACTIONS ARE VRIL PROJECTED TRANSACTIONS
CHEMICAL DETRITUS APPEARS AS COMPOUNDS OF PROJECTED MATTER
CHEMICAL REACTIONS ARE EIDETIC
CHEMICAL DETRITUS CONTAINS VISCERO-EIDETIC COMPLEXES
PROJECTED METALS AND CRYSTALS MAY NOT MUTUALLY DIFFUSE
VRIL EIDETIC TRANSACTIONS AMONG LODES, CRYSTALS, AND MINERALS PROJECT EIDETIC
MATERIALS AMONG THE PROJECTIVE MASSES



EXPERIENTIAL REGIONS ARE EIDETO-PROJECTIVE VRIL REGIONS
VRIL REGIONS ARE DISTINCT AND SPECIFIC IN HOLISTIC CONTENT
VRIL REGIONS ARE CHARACTERIZED IN VISCERO-EIDETIC QUALITIES
GEO-TOPOLOGICAL DIFFERENCES ARE VRIL PROJECTIONS
EXCESSIVELY DEEP EIDETIC WORLD NODES ARE YET GENERATIVE AND MATERIO-PRODUCTIVE
CONSCIOUSNESS IS EIDETICALLY ENDRAWN IN VRIL CHANNELS AND PASSAGES
PERMITTED EXPERIENCE OF VRIL CAUSEWAYS IS EXCESSIVELY TRANSFORMATIVE



WHERE THE BLACK GROUND RAYS RISE IS THE VERY SITE
WHICH CERTAIN SENSITIVES SEEK THE VRIL.
HERE WHERE THE VRIL TENDS TO BE HIGHLY CRYSTALLINE
IN ITS FLUIDITY ONE MAY DERIVE POTENTIALS OF TRANSCENDENT
DREAM, VISION, AND ARCHANE KNOWLEDGE:
THE LIVING AND ANCIENTMOST AGES UNFOLD INCESSANTLY



VRIL HEAT IS THE PURE HEAT OF SPECIFIC EIDETIC WORLD TRANSACTIONS

VRIL HEAT DISCHARGES ACROSS FAULTLINES AND WITHIN SPECIFIC PRESSURED MATTER

FRICTIVE CONTACT DISRUPTS VRIL THREAD CONTINUITIES

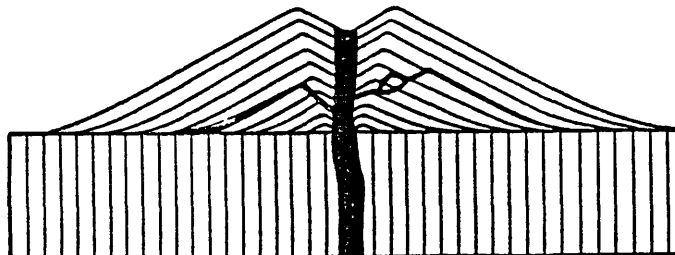
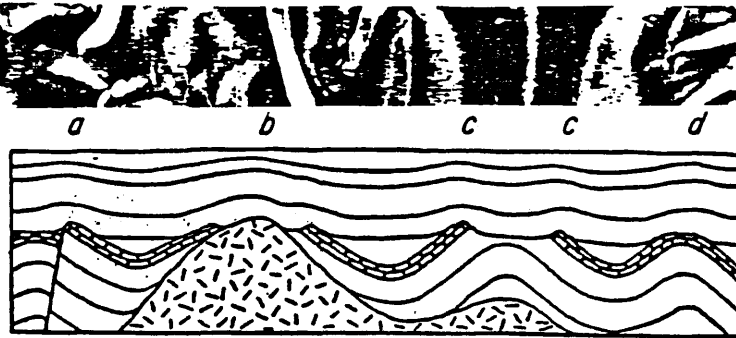
INERTIAL SPECIES ARE VRIL-CAUSE SPECIFIC

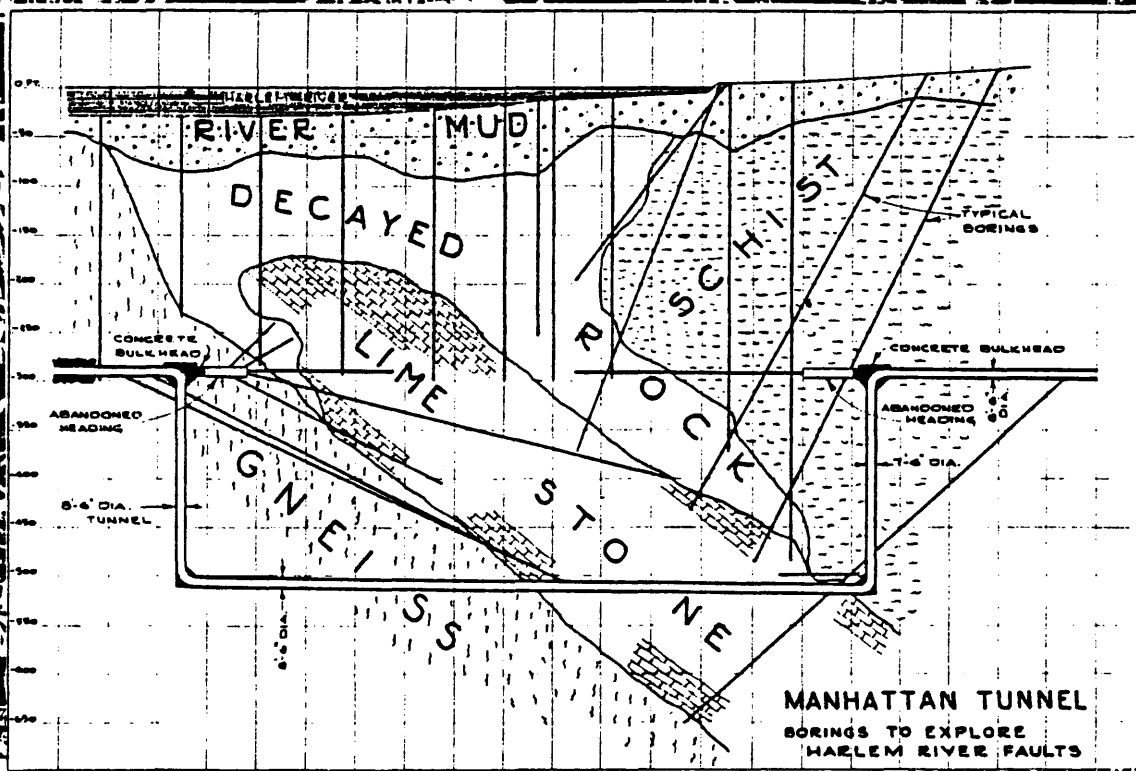
INERTIAL SPECIES DIFFRACT EIDETIC VRIL CAUSATIVE PROJECTIONS

PROJECTIONS CONTINUE TO INTENSIFY AND FUSE INERTIAL DETRITUS

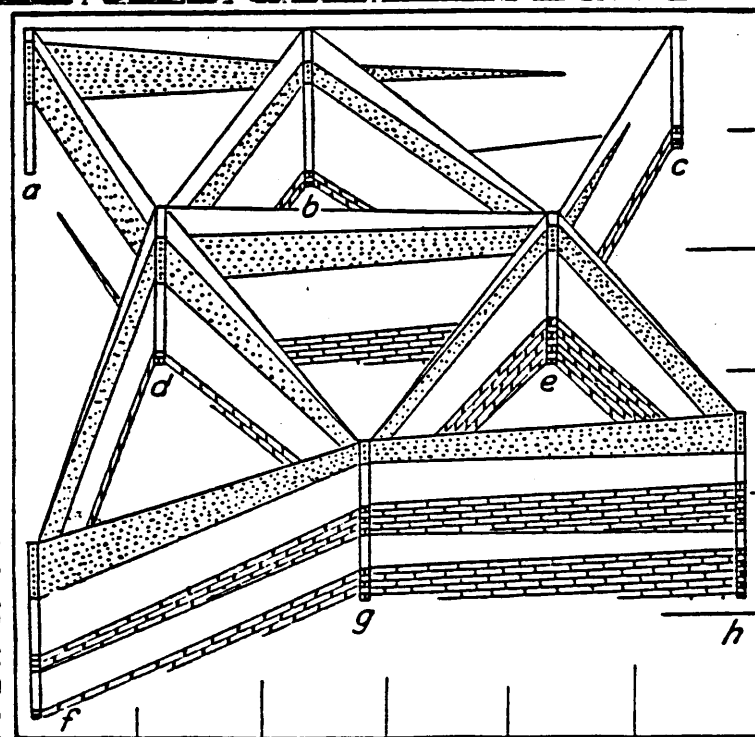
MATERIAL FRICTIONS PRODUCE INERTIAL CONCENTRATIONS WHICH SPECIFICALLY

DIFFRACT VRIL HEAT INTO DETRITAL PRODUCTS





GROUND MASSIVES ARE VRIL GENERATED MATERIALS
 DEPOSITS, LODES, CAVERNS, AND PEGMATITE CRYSTALS ARE DENDRITIC IN FORM
 GROUND MASSIVES ARE VRIL PROJECTED WORLDS IMPACTING INERTIAL SPACE
 SENTIENT CONSCIOUSNESS IS ENDRAWN INTO GROUND-DEEP PROJECTION SITES
 INERTIAL DISSOLUTIONS ARE SEVERE ALONG SPECIFIC AXES
 EIDETO-PROJECTIVE DISCHARGES GUIDE VRIL SENSITIVES IN SPACEWARD DIRECTIONS
 VRIL PROJECTED MATERIALS CONTINUE TO BE GENERATED EX NIHILO
 VRIL INDUCED PRESSURES FOLD AND INTENSIFY MATERIAL INTERACTIONS



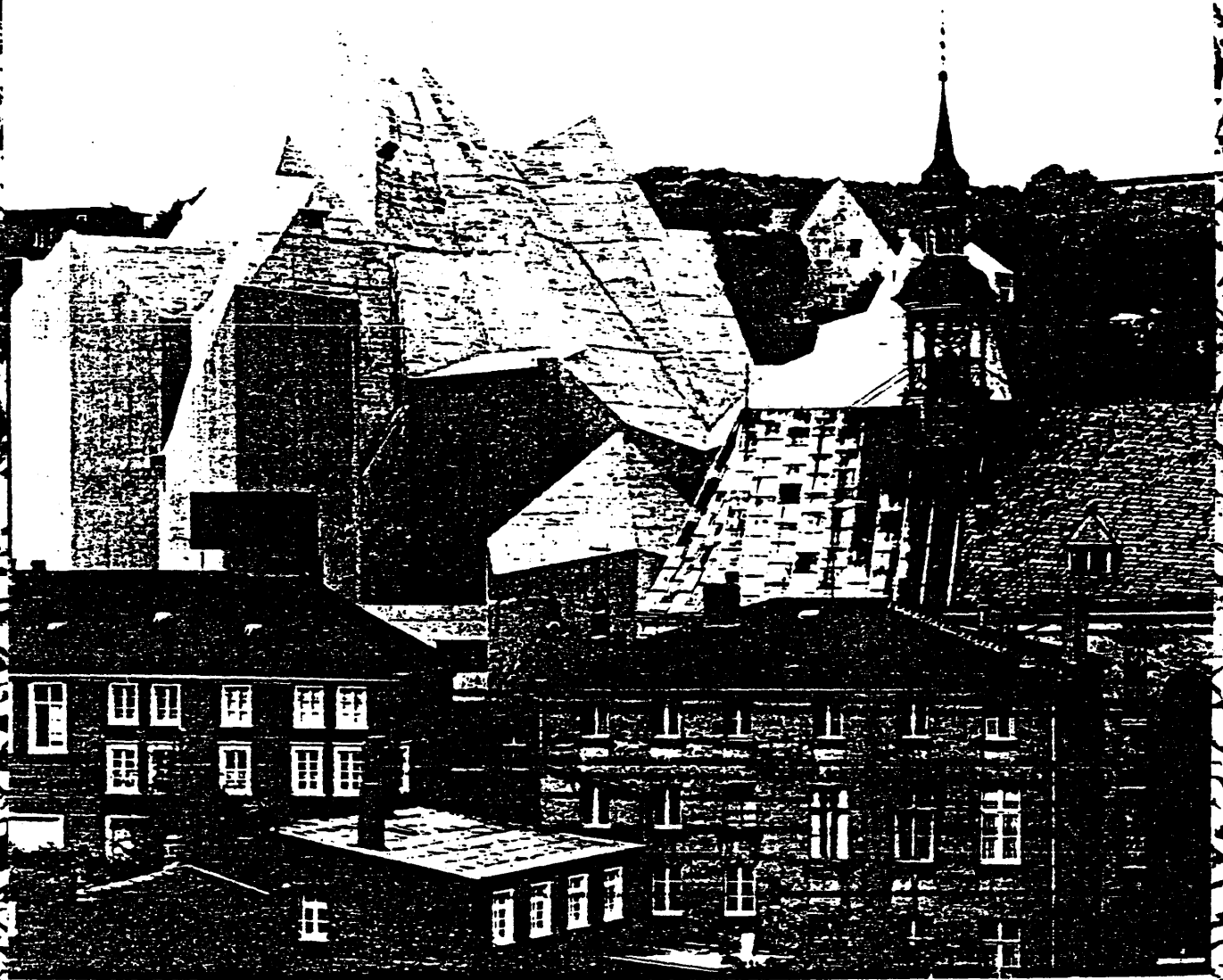
VRIL CRYSTALLOGRAPHIC GROUND AXES DETERMINE VIRTUAL EIDETIC STRUCTURES

VIRTUAL STRUCTURES COINCIDE WITH GEOLOGICAL AXES OF STRENGTH

FAULTLINES COLLAPSE VRIL VIRTUAL STRUCTURES

ARCHITECTURE INTUITIVELY CONFORMS IN VRIL GROUND CRYSTALLOGRAPHY

METAL AND MINERAL DEPOSITS ARE PROJECTIVE SITES



Gottfried Böhm. Pilgrimage church. Neuges, Germany

THIS TRULY ASTOUNDING EDIFICE REPRESENTS THE NEAREST REPRESENTATION
OF THE VRIL VIRTUAL ARCHEFORMS WHICH I HAVE YET FOUND IN MATERIAL FORM...

CURIOUSLY A CHURCH

THE SYMMETRY OF POLYCRYSTALLINE FACES IS REMARKABLY CONSISTENT WITH THOSE
WHICH ACTUALLY PERMEATE THE DISTRICT WHEN CLOSELY EXAMINED

THE OLDER EDIFICE WITH THE SPIRE (RIGHT HORIZON) IS THE VRIL GROUND PIER
VRIL EMERGES FROM THIS NODE AND ENTERS THE PUYR

ENTERING THE PYRAMIDAL FORMS FROM GROUND TO PEAK
IN A LEFTWARD DIRECTION WHICH FOLLOWS THE OUTER WALL



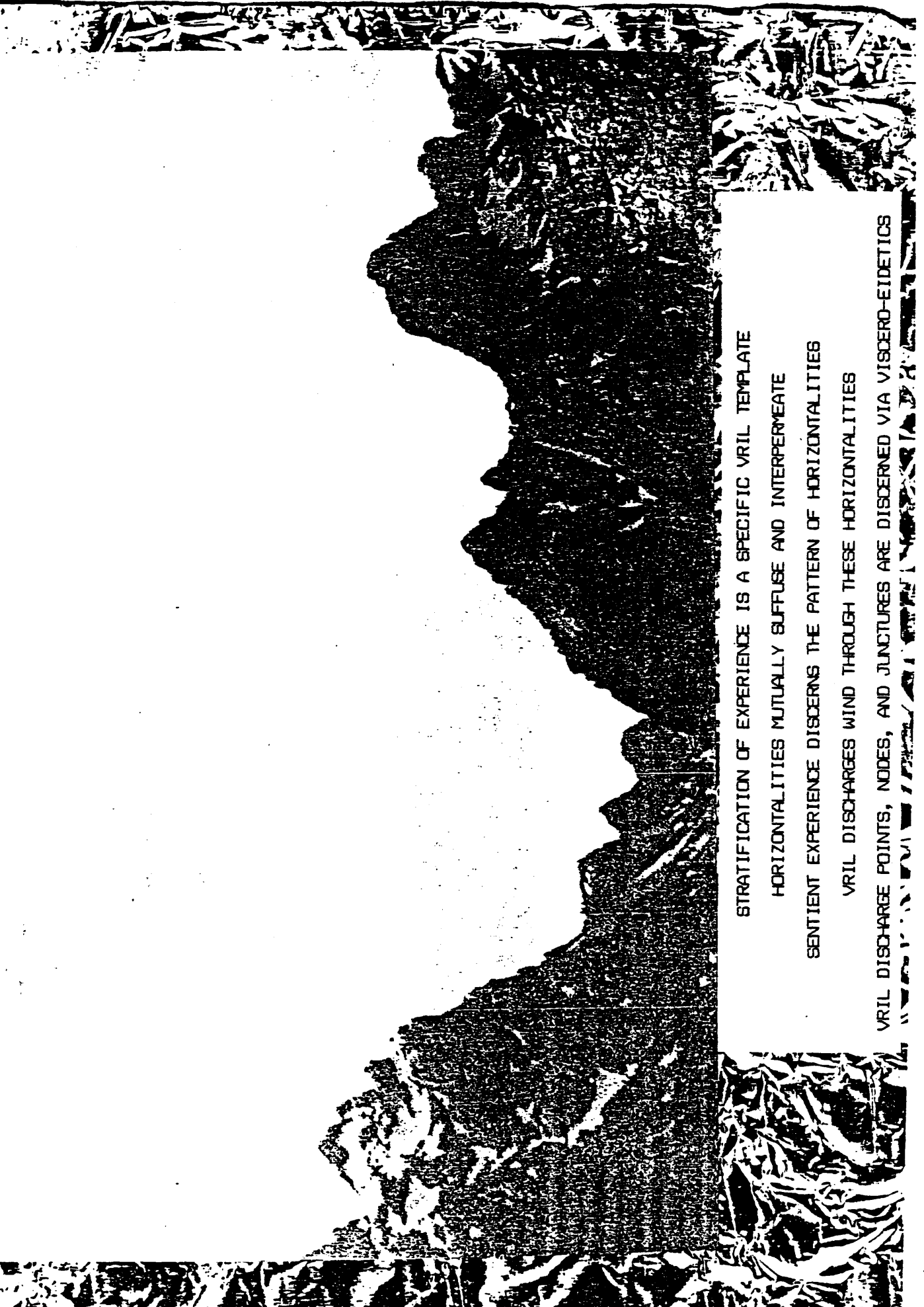
INTUITIVE TRIBES PORTRAYED AND REPRESENTED VRIL VIRTUAL FORMS OF THE REGION

SUCH EXACT RESEMBLANCES WITH VRIL VIRTUAL FORMS ARE STRIKING

TRIBES OVER-RELIED UPON METAFORMS

TRIBES DID NOT DEVELOP SUBSTANTIAL TECHNOLOGY

FOR POTENT PROJECTIVE EIDETIC TRANSACTION



STRATIFICATION OF EXPERIENCE IS A SPECIFIC VRIL TEMPLATE
HORIZONTALITIES MUTUALLY SUFFUSE AND INTERPERMEATE
SENTIENT EXPERIENCE DISCERN THE PATTERN OF HORIZONTALITIES
VRIL DISCHARGES WIND THROUGH THESE HORIZONTALITIES
VRIL DISCHARGE POINTS, NODES, AND JUNCTURES ARE DISCERNED VIA VISUO-EIDETICS

ETHERFORCE

SPACE INERTIA CONFORMS WITH GROUND MASS
VRIL TOPOGRAPHY REVEALS EIDETIC STRUCTURES,
DISCHARGE PATHWAYS, CHANNELS, AND (DEEPER) CAUSEWAYS
VRIL DENDRITIC FORMS PERMEATE NATURAL APPARENCY



ÆTHERFORCE



NATURAL GEOLOGICAL STRUCTURES REVEAL VRIL GENERATIVE FORMS

ROCK RILLES, HILLS, AND MOUNTAINS

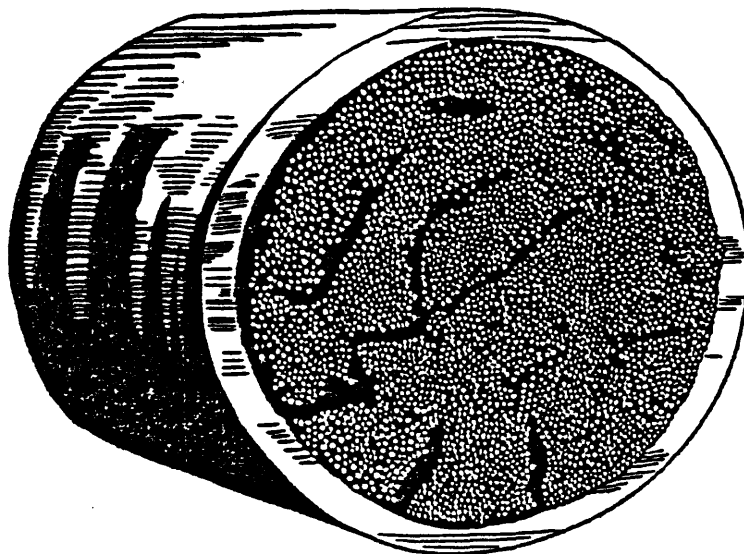
VALLEYS, RIFTS, SCARPS, AND PEAKS

CAVERNS, LODES, DEPOSITS

VRIL IS REVEALED A GENERATIVE CAUSE AND ACTIVE AGENCY OF CHANGE

GROUND MOVEMENTS ARE EIDETIC VRIL GENERATED PROJECTIONS

ÆTHERFORCE

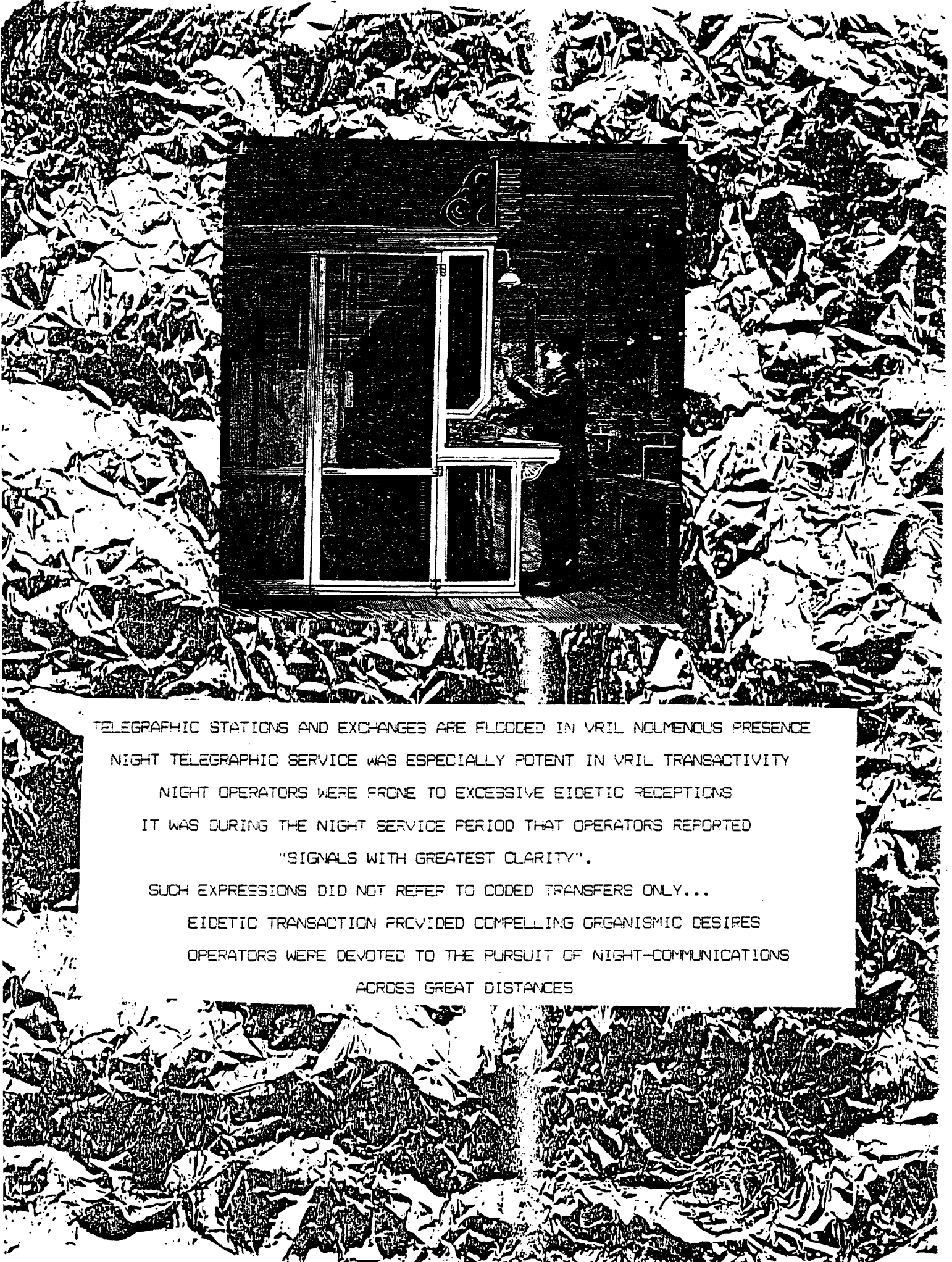


TELEPHONE CABLE

This lead tube $2\frac{3}{8}$ inches in diameter contains 3,636 insulated wires. Cables have removed pole lines from main thoroughfares of large cities and reduced the size of poles where poles are still used.

ARTIFICIAL VRIL VASCULAR CONDUITS PERMIT VAST TRANSACTIONS OF EIDETIC INFORMATION

THE BURIAL OF THESE COMPONENTS GAVE STRONG EVIDENCE THAT VRIL GROUND
DENSIFICATIONS WERE RESPONSIBLE FOR THE MEANINGS WHICH JOIN CODE
TO COMPOSE COMMUNICATIONS



TELEGRAPHIC STATIONS AND EXCHANGES ARE FLOODED IN VRIL NOUMENOUS PRESENCE
NIGHT TELEGRAPHIC SERVICE WAS ESPECIALLY POTENT IN VRIL TRANSACTIVITY
NIGHT OPERATORS WERE PRONE TO EXCESSIVE EIDETIC RECEPTIONS
IT WAS DURING THE NIGHT SERVICE PERIOD THAT OPERATORS REPORTED
"SIGNALS WITH GREATEST CLARITY".
SUCH EXPRESSIONS DID NOT REFER TO CODED TRANSFERS ONLY...
EIDETIC TRANSACTION PROVIDED COMPELLING ORGANISMIC DESIRES
OPERATORS WERE DEVOTED TO THE PURSUIT OF NIGHT-COMMUNICATIONS
ACROSS GREAT DISTANCES

ETHERFORCE



TELEGRAPHIC CONNECTION SITES DREW IN VRIL PRESENCE
WHERE NONE COULD BE SEEN IN THE SURROUNDINGS
THE TELEGRAPH OPERATOR BECAME THE TRANSACTOR WITH
DISTANT EXPERIENTIAL POTENTIALS

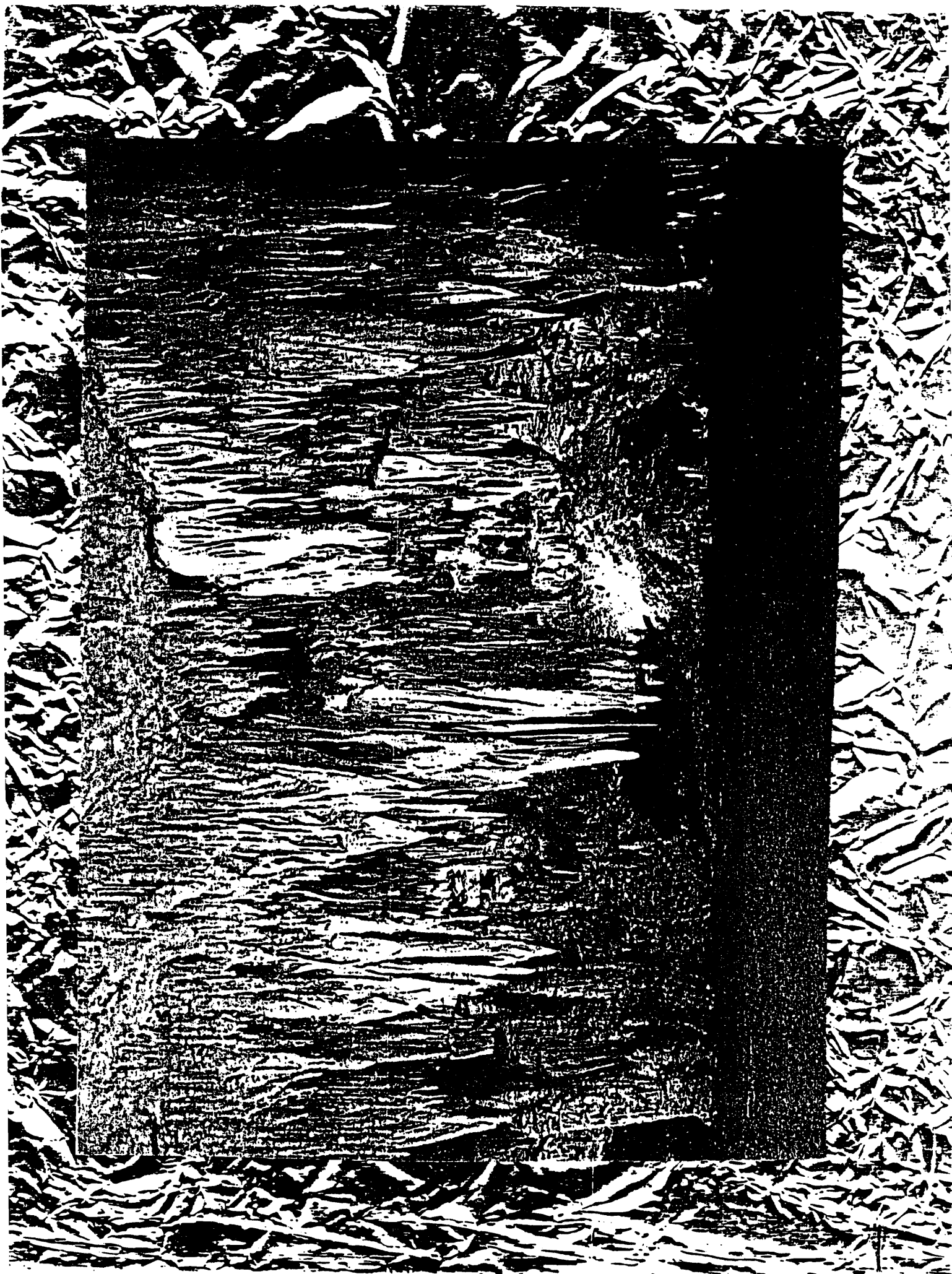
ÆTHERFORCE

SECTION
5

SUBTERRANEAN
HALLS



ÆTHERFORCE

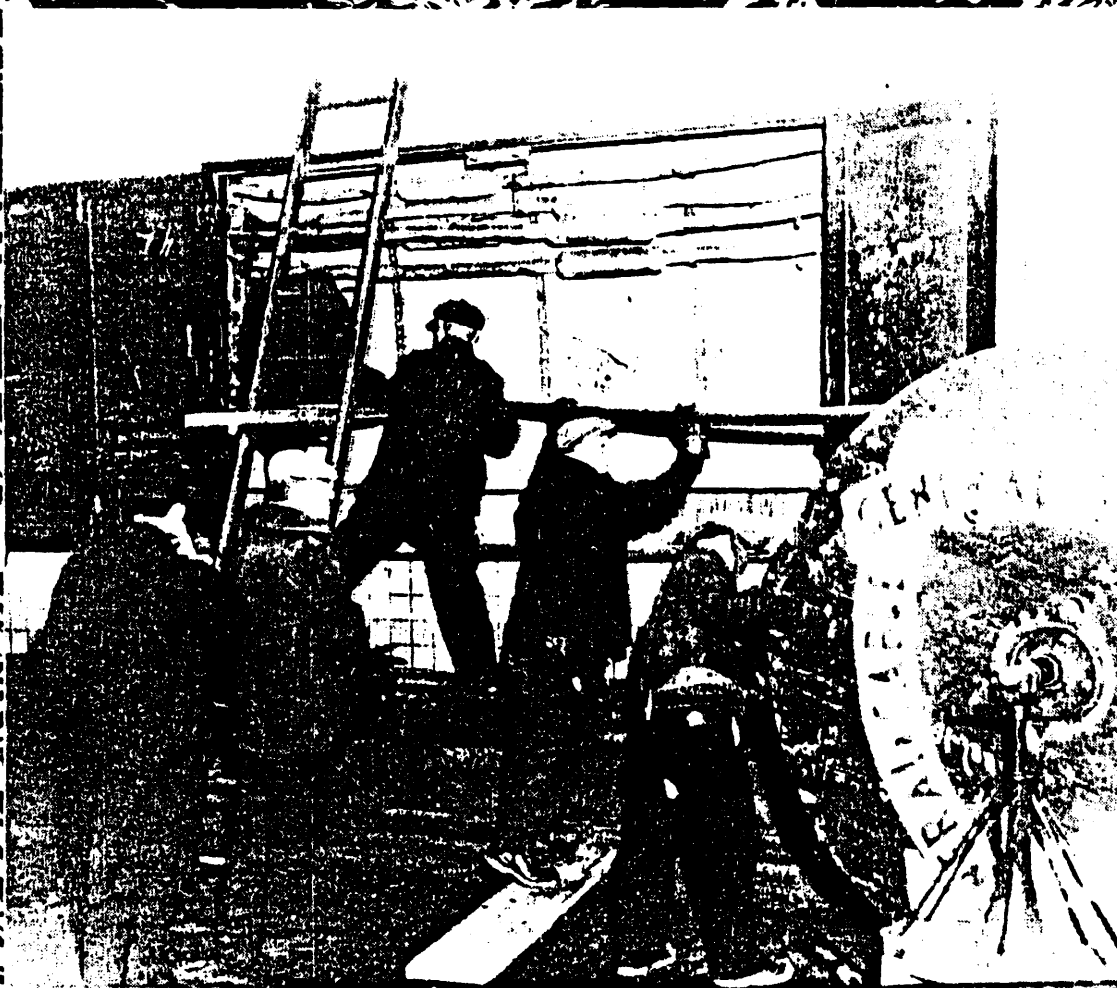


ÆTHERFORCE

COMPONENTS SUCH AS LOADING COILS NOTICEABLY ALTER AND DISTORT THE VRIL THREADWAYS



FIG. 26—Loading coil cases in a manhole, showing method of connection to cables.



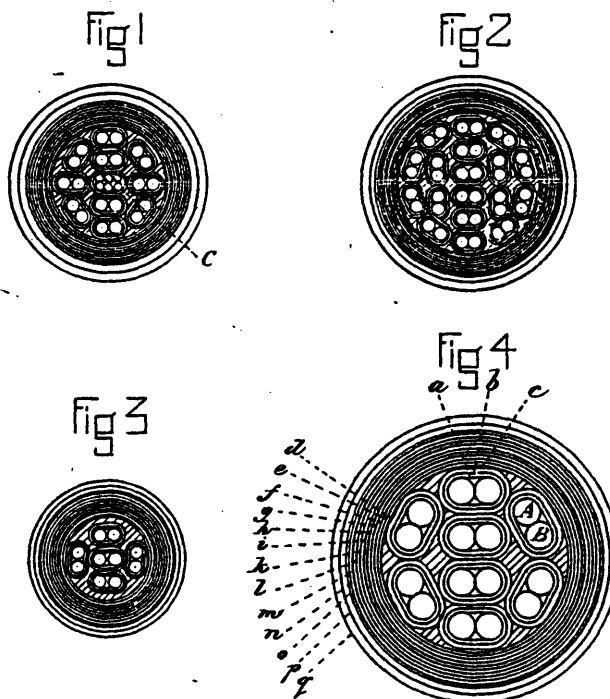
ÆTHERFORCE

(No Model.)

H. C. SPALDING.
COMPOUND ELECTRICAL CABLE.

No. 327,459.

Patented Sept. 29, 1885.



WITNESSES
H. Frisby
W. H. Doggett.

INVENTOR
Henry C. Spalding
By Parker W. Page atty.

UNITED STATES PATENT OFFICE.

HENRY C. SPALDING, OF BOSTON, MASSACHUSETTS.

COMPOUND ELECTRICAL CABLE.

SPECIFICATION forming part of Letters Patent No. 327,459, dated September 29, 1885.

Application filed May 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. SPALDING, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Compound Electrical Cables, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

My present invention relates to compound cables in which the conductors are arranged in pairs to form complete or two-wire circuits, and each pair or circuit protected from the electrical inductive influence of the others and the electricity of the earth.

I have described in other applications filed by me cables of this character, in which the protection against inductive influences is secured by surrounding each circuit by an insulated metallic sheath or casing, and by surrounding the group or assemblage of such circuits by one or more insulated sheaths, and in a novel method of assembling the conductors of these cables my present invention mainly consists.

In carrying out my invention I lay two insulated wires side by side, and then, having coated them with a suitable varnish, wind around them a strip of paper which is saturated with paraffine. Another coating of varnish is then applied, and upon this a strip of metallic foil is wound. This also is varnished and covered by a spirally-wound strip of paper. The cable thus formed is in cross-section nearly elliptical, so that when a number of them are grouped together in a compound cable a special arrangement is necessary in order to form an approximately-round bundle and bring the greatest number into the smallest possible space.

The arrangement which I have adopted is to lay a given number of the elliptical cables one upon the other, with their major axes parallel, and then to lay on each side of this series the remaining cables of the number required at varying angles, in order to round out the bundle. The cables thus grouped are inclosed in various sheathings of insulating material and metal, the former being paper

saturated with paraffine and wound on or in a viscous varnish composed of a compound of resin and a vegetable oil.

To more particularly describe the invention, reference is made to the accompanying drawings, in which—

Figures 1, 2, and 3 are cross-sectional views of compound cables constructed in accordance with my invention and containing different numbers of wires. Fig. 4 is a cross-section of a cable drawn on a larger scale.

A B designate the wires of a circuit. Each is insulated, and the two are laid side by side without being twisted. The insulating-covering is coated with a viscous varnish, upon which is wound a sheathing of paper, *a*. This is varnished and incased in a sheathing of metal foil, *b*, which in its turn is varnished and wrapped with paper *c*. Each pair of conductors is treated in a similar manner. When a given number of these protected circuits are to be combined in one cable, a portion of the elliptical cables are laid upon one another in line, and the remainder are placed on each side of the pile at varying angles, as indicated in the several figures. The group is then inclosed by insulating and protective coatings. I have indicated in Fig. 4 a covering which I use, and which is applied in the manner described in various other applications filed by me. This covering is composed of the following layers, sheathings, and coats: *d*, fibrous material saturated with paraffine; *e*, varnish; *f*, metal, as tin-foil; *g*, fibrous material saturated with paraffine; *h*, varnish; *i*, metal; *k*, fibrous material; *l*, varnish; *m*, metal; *n*, fibrous material; *o*, a layer of a viscous bituminous compound; *p*, a serving of spirally-wound twine; *q*, a jacket or armor.

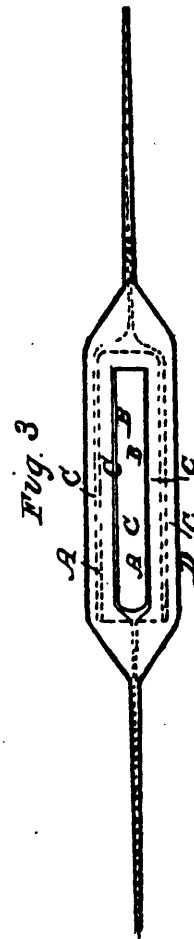
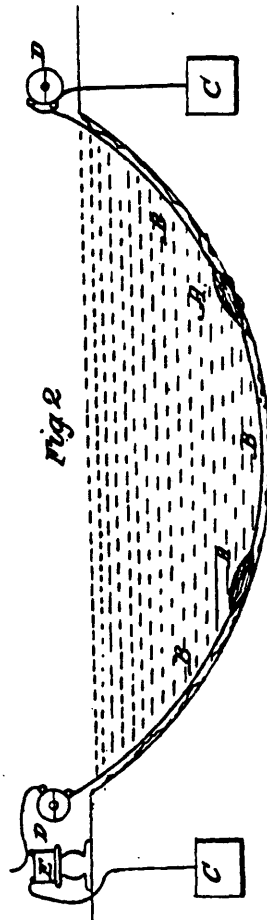
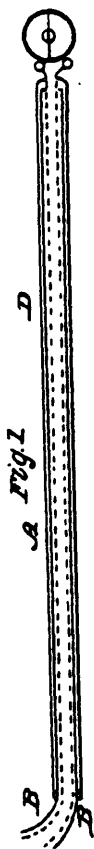
The fibrous material which I use is preferably Manila paper; the varnish a compound of boiled linseed-oil and crude turpentine, though I may use turpentine in any reduced condition, or even resin, if care be taken to increase the proportion of linseed-oil, as the resinous matter is more solid. Other oils than linseed may be used with the resin to render the compound permanently, but very slightly, viscous.

W. P. PIGGOTT.
Telegraph Cable.

2 Sheets—Sheet 1.

No. 50,314.

Patented Oct. 3, 1865.



Witnesses
Thos. Davis
J. C. Gault

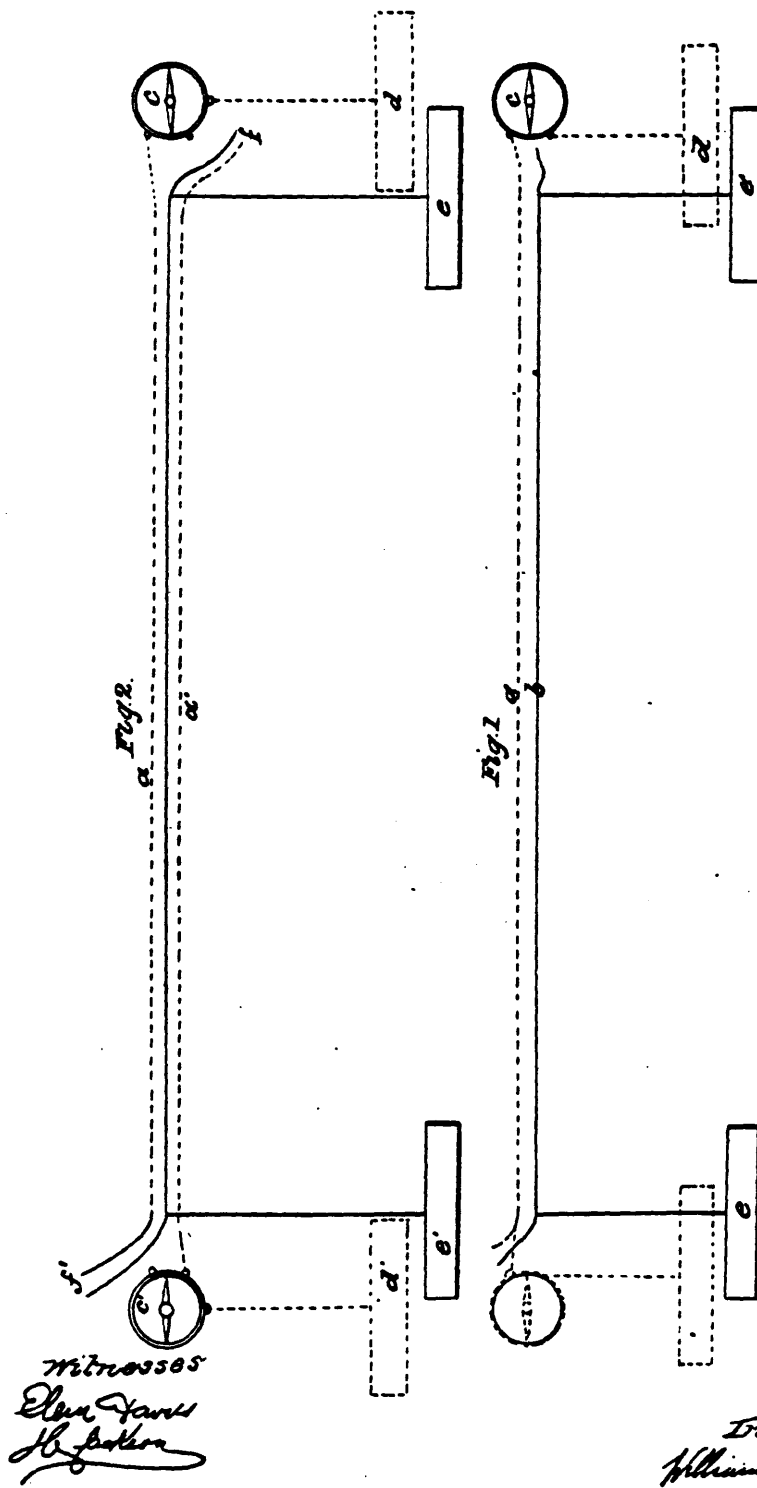
Inventor
William Peter Piggott

W. P. PIGGOTT.
Telegraph Cable.

2 Sheets—Sheet 2.

No. 50,314.

Patented Oct. 3, 1865.



UNITED STATES PATENT OFFICE.

WILLIAM PETER PIGGOTT, OF LONDON, ENGLAND.

IMPROVEMENT IN TELEGRAPH-CABLES.

Specification forming part of Letters Patent No. 50,314, dated October 3, 1865.

To all whom it may concern:

Be it known that I, WILLIAM PETER PIGGOTT, of Argyll Street, (Regent Street,) London, have invented Improvements in Electric Telegraph-Cables and in Transmitting Signals Therethrough; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention has for its object improvements in the mode of obtaining or generating electric currents, in combination with telegraph cables or wires.

It has hitherto been the practice to generate the electric currents required for submarine cables by means of a battery or magnetic apparatus at the sending end, the galvanic or magnetic current evolved being of sufficient force to produce its effect on an instrument at the other end of the cable or receiving-station. Now, currents of electricity or magnetism, as is well known, in their passage through the wire excite within it a resistance which increases according to certain ratio between the distance and force. Thus, however well a cable or wire may preserve its insulation for a short distance, when the electric charge has to be augmented, in order to reach a station more remote the resistance consequent upon this increase of the force produces a leakage, and thence sooner or later the failure of the current to arrive at the distant station.

The first part of this invention relates to certain novel constructions and arrangements of electric telegraph-cable and apparatus connected therewith, whereby facility is afforded for making use of the induced electricity of the cable and for sending either single messages in one direction or any number of messages in opposite directions at the same time, according to the number of circuits contained in the cable.

The second part relates to a mode or method of utilizing old or damaged cables of the ordinary construction by the aid of the induced electricity of the cable itself.

My mode of remedying the defect above referred to consists in so constructing the cable that it shall at all times retain a static electric charge; or, in other words, so that a cable or wire or wires of a telegraph-cable may operate as agents with the generating-sur-

face, by which means such cable or wire or wires will be kept in a constant static condition, and consequently will require but very small power for the production of the required force. According to one mode of carrying out the invention, I employ various elements and combinations of elements for the production of voltaic currents, and these may be varied according to the circumstances. In this mode of constructing a cable capable of generating currents of electricity and of effecting reverse currents when required, I propose to make a copper or other wire circuit in the cable, placing the instrument or galvanometer in such circuit at the distant station, this wire or circuit to be partially insulated and each half of the circuit to be separate one from the other and from metallic contact with each other, and worked into a strand or strands of hemp saturated with a solution of the chlorides of one of the following salts, videlicet: calcium, lithium, or magnesium, or any other deliquescent salt, and afterward passed through powdered lime or gypsum. The cable so far constructed may then have a covering of a metal wire or wires of a different electric property or condition from that of which the metal circuit is made, producing in this manner a static condition of such cable. The outer wires may be covered with hemp or jute thoroughly tarred or otherwise coated with any partially-insulating material. Now this cable is capable of producing its effects at a distant station by bringing either end of the wire circuit in contact by means of a commutator with the other elements of the cable, and which may be either the wire covering or the core of the cable, such cable being at all times in a static condition. A battery of small power (and which I prefer to be an insulated one) having the inner circuit of the cable in connection with one pole of it, and the other pole of the battery being made to make and break contact with the other element of the cable, signals will be transmitted through it from end to end.

Another mode of carrying out this part of my invention is by means of a single line-wire, and this I term my "ganglionic cable;" and it differs from the previous arrangements, inasmuch as, instead of making the whole length of the cable a generator, I form it in ganglions,

or a series of nodules analogous to nervous centers, which act as generators from one to the other along the whole line of cable and at such distances as will keep the line statically charged. In this case I bring the ends of my cable to earth-plates, as in the ordinary method. I use a wire coated with any insulating material and afterward worked into a hempen cable, which may be coated with iron or in any of the ordinary ways; but I do not require the same insulation, as when the current of electricity is forced by a powerful battery, as has hitherto been the case. In this cable the static charge requires but very slight power to give it the force requisite for telegraphic purposes. Further, I can combine any number of wires and generators in the same cable, so as to be able to send several messages and in each direction at one and the same time.

My generators are constructed either cylindrical or of any other convenient form. They are composed of two or more plates of dissimilar metal, separated by a compost formed of chalk or gypsum or other calcareous earth, well ground, with a solution of one or more of the chlorine salts, either used separately or combined, and inclosed in a partially or wholly insulated case, which may be made of bituminized paper, gutta-percha, india-rubber, stone-ware, glass, or metal, the inside of which may be lined with some insulating material.

According to another method I construct a cable with not less than two wires of opposite electrical properties if messages are required to be sent in one direction only at one time; but if it be desired to send two or more messages in the same or in opposite directions at one time, I employ as many copper or other wires of the same electrical property as may be necessary.

Fig. 1, Sheet 1, represents one form of cable in section, showing how it generates through its whole length. The red lines (marked A) show the metallic circuit. The blue lines (marked B) is the opposite metal, and which I prefer to be of tinned iron or galvanized iron, and may be either internal or external to that marked A. The space between the lines A and B will be of hemp, saturated, as before mentioned. The black lines (marked D) represent the outer covering of hemp or jute combined with tar or any other partially-insulating substance.

Fig. 2 shows a cable with its generators submerged. A A, generators on the line-wire, marked B B; C C, earth-plates; D D, galvanometer; E, battery.

Fig. 3 shows a longitudinal section of a simple generator. A A, the negative cylinder or plate; B B, the positive cylinder or plate, each with its continuous wire for connecting with the cable; C C C C, the compost; D, the outer covering, which may be hermetically sealed.

Fig. 1, Sheet 2, of the drawings represents a diagram of my simplest form of cable, composed of two wires only of opposite denomina-

tions, whereby I am enabled by the induced electricity of the cable and its earth-plates to transmit a message in one or other direction at will. *a* is a copper wire, and *b* a galvanized-iron wire, which may either be the core or the outer covering, or, if preferred, the iron and copper wires may be laid in one spiral or strand, but insulated from each other in the usual or other manner, but not necessarily what is generally employed for electrical insulation, from the fact of the cable not requiring battery-power to overcome the inductive resistance thereof. One end of the copper wire is connected to the receiving-instrument *c*, which instrument is in direct connection with the earth by the earth-plate *d*, of the same electrical denomination as the wire *a*. The iron wire *b* is also in direct communication at each end with earth by the earth-plates *e e'*, of the same electrical denomination. In order to transmit a message, it is simply necessary to bring the two wires *a* and *b* in contact with each other at the sending end, when the disturbance of the induced electricity thereby produced will cause the necessary deflection of the receiving-instrument or galvanometer *c*. In sending messages the copper wire at the sending end must be for the time being detached from the receiving-instrument, but connected with the receiving-instrument at the opposite end, which I have shown in dotted lines in Fig. 1.

Fig. 2 represents a diagram of a more perfect arrangement, whereby messages can be received and sent simultaneously. In this arrangement I employ not less than three wires—namely, two copper wires, *a a'*, and one iron wire, *b*, or one copper and two iron wires, all insulated from each other. Any number of wires may be used, according to the number of circuits required. To one end of the copper wires *a* is connected a galvanometer or other suitable recording-instrument, *c*, which is in connection with earth by a negative plate, *d*, or plate of the same electrical denomination as the wire. The opposite end of the other copper wire, *a'*, is similarly connected to a galvanometer or other suitable recording-instrument, *c'*, which is also in connection with earth by a plate, *d'*, of the same electrical denomination as the wire *a'*. The iron wire *b* is connected at each end with earth by a plate, *e e'*, of the same or a similar electrical denomination as the wire. A cable of this construction will at all times be filled with induced electricity, or be statically charged like the Leyden jar, and it is the disturbance of this charge which, by operating upon the instrument at the distant end, produces the desired signals. This disturbance is effected by simply bringing by means of a commutator, the opposite wires or elements of the cable into contact with each other at the points *ff'*.

Old or damaged cables which have been intended to be worked by battery-power, but which have become useless by reason of defective insulation, may be readily worked by my

system of the induced electricity, since perfect insulation is not actually necessary. The power or quantity of the induced electricity in the cable may be increased to any desired extent by increasing the size of the earth-plates before referred to; but should there be no continuity of iron in the cable, then I propose to produce the inductive state of the cable by introducing at one or more parts of the cable the ganglions, before described, consisting of positive and negative elements, each in connection with the conducting-wire, but insulated from each other, each ganglion forming in itself a small battery of just sufficient power to keep the cable charged.

It is obvious that cables in the condition above described may be made to transmit signals by the means described in reference to Fig. 1, the iron covering of the cable answering the purpose of the wire *b* and being similarly connected with earth, while the conducting or copper wire will serve the purpose of the wire *a* and be similarly connected with a receiving-instrument and with earth.

In some cases, where necessary—as, for example, in rocky or stony ground—I propose to embed the earth-plates in a compost of earth saturated with diluquescent salts—such, for example, as chlorine salts or sea-water—the object being to increase the inductive action at the shore ends of the cable; or, if preferred, the same effect may be produced by making the insulating medium of the shore ends of the cable perfect.

I claim—

1. The method of giving a static charge to a cable, and the means by which this is accomplished, as is set forth, and the manner in which

I construct my generators, and which are equally capable of being used either on land or submerged in sea or other water for telegraphs, and which may be used for other purposes.

2. The application and use to and in the transmission of electric signals of statically-charged cables constructed and worked in the manner hereinbefore described.

3. The combination, in an electric cable, of two wires or series of wires of opposite electrical denomination, one of such wires or series of wires being connected with earth at each end by corresponding earth-plates, while the other wire or series of wires is connected to a galvanometer or receiving-instrument which is itself connected with earth by a corresponding earth-plate.

4. The combination, in an electric cable, of two or more wires or wire strands, of one electrical denomination connected through a galvanometer or receiving-instrument with earth and of a wire core or covering of opposite electrical denomination in permanent connection with earth at each end, as hereinbefore described.

5. The application of my ganglions to old or damaged cables of the ordinary construction, for the purpose of working the same by the aid of induced electricity, in the manner hereinbefore described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM PETER PIGGOTT.

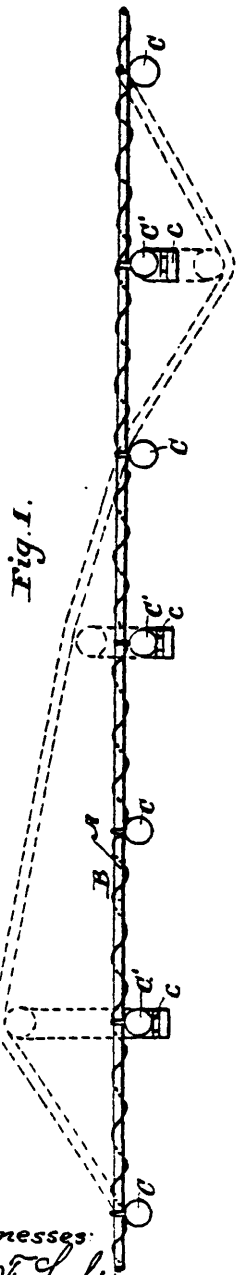
Witnesses:

ELEM DAVIES,
I. E. JACKSON.

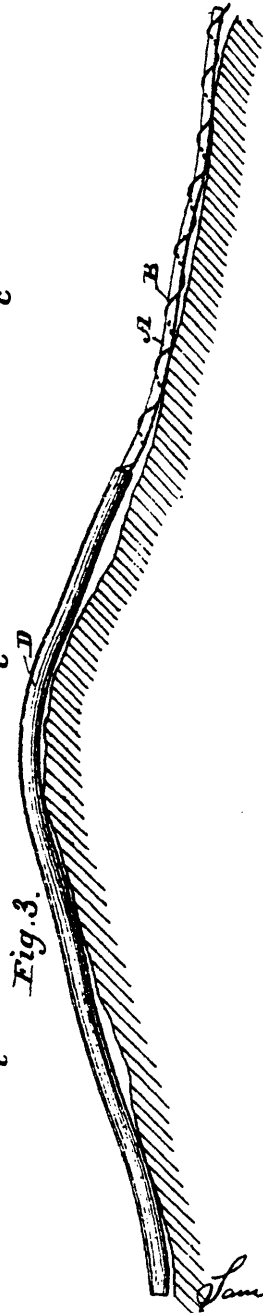
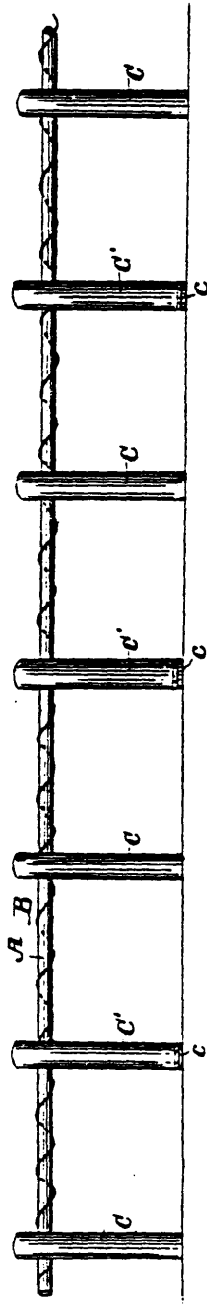
S. T. FIELD.
Telegraph Cable.

No. 53,430.

Patented March 27, 1866



Witnesses:
John H. Lohrberg
or
Wm. H. Carter



Inventor
Samuel T. Field

UNITED STATES PATENT OFFICE.

SAMUEL T. FIELD, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN TELEGRAPH-CABLES.

Specification forming part of Letters Patent No. 53,430, dated March 27, 1866.

All whom it may concern:

It is known that I, SAMUEL T. FIELD, of the city of St. Louis, county of St. Louis, and State of Missouri, have invented a new and useful Improvement in Elastic Cables, of which the following is a full and clear description, reference being had to the accompanying drawings forming part of this specification.

My invention relates to an elastic cord upon which is coiled helicoidally one or more media of electric conduction.

Figure 1 is a plan of my improved cable stretched to vertical posts, as is usual in overhead routes. Fig. 2 is an elevation of the overhead cable. Fig. 3 is an elevation of a submarine cable with an insulating covering.

A represents a cylindrical elastic cord, which forms the core of the cable. It may be of rubber or of the most durable elastic substance known. About this yielding cord is wound helicoidally one or more conducting-wires, B. The cable is secured to the posts C and C', secured in the ground in the usual manner.

The superiority in my cable over others is the yielding properties of B. In cases of storms, when the sustaining-posts are thrown down, the cable, on account of its peculiar structure, readily accommodates itself to a new position.

In the submarine cable shown in Fig. 3 the elastic cable is sheathed in a non-conducting and yielding cover, D, impervious to water. It conforms to the inequalities of the surface, and is consequently less liable to rupture than the ordinary cable.

Having fully described my improved cable and shown its advantages, I make the following claim:

The elastic cable composed of parts A and B, combined with the non-conducting and yielding cover D.

SAMUEL T. FIELD.

Witnesses:

ROBERT MOORE,
R. N. CARTER.

G. B. SIMPSON.
Insulating Submarine Cable.

No. 65,019.

Patented May 21, 1867.



Inventor.

Geo. B. Simpson.

Washington, D.C.

May 4th 1866

*attest { W. Phillips
Frank Smith*

UNITED STATES PATENT OFFICE.

GEORGE B. SIMPSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN INSULATING SUBMARINE CABLES.

Specification forming part of Letters Patent No. 65,019, dated May 21, 1867.

To all whom it may concern:

Be it known that I, GEORGE B. SIMPSON, of Washington city, in the District of Columbia, have invented a new and useful Improvement in Electrical Conductors for Telegraphic Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification.

To enable others to make and use my submarine telegraph-cable, I will describe its manufacture thus: I dissolve gutta-percha with chloroform, or any other known solvent. I soften gutta-percha in boiling water, steam, or dry heat. I combine gutta-percha with metallic wire by means of a brush, or by immersing the wire in the solution when in the solvent state. I combine gutta-percha and metallic wire with the fingers, or any machine which may facilitate the operation, and execute the work more perfectly by pressing the gum upon and around the wire, or by spinning it out, when in the plastic state, into thin and ribbon-like strips, and twining it on them tightly and continuously around the wire, thus combining the gutta-percha and metallic wire and insulating the wire to any extent. By this mode of combination I cover the wire on all sides with a uniform coating of gutta-percha, of any desired thickness, for the purpose of securing a conductor of electricity within the non-conducting substance, gutta-percha, which combination forms a sub-

marine telegraph-cable, flexible and convenient, which may be suspended on poles in the air, or submerged in water and in the earth. This mode of combination and insulation confines the electric current to the wire, wires, or other conductors of electricity, shielding it and them from contact with any and all external electric, galvanic, or magnetic influences whatsoever, thus attaining a great triumph in art—namely, the absolute control of electric and galvanic currents for atmospheric and submarine telegraph communication, and for other electric, galvanic, and magnetic uses. (See drawing.)

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The combination of gutta-percha and metallic wire in such form as to incase a wire or wires, or other conductors of electricity within the non-conducting substance, gutta-percha, making a submarine telegraph-cable, at once flexible and convenient, which may be suspended on poles in the air or submerged in water and in the earth to any extent for atmospheric and submarine telegraph communication, and for other electric, galvanic, and magnetic uses, as hereinbefore described.

Washington, D. C., May 1, 1866.

GEO. B. SIMPSON.

Witnesses:

J. F. CALLAN,
M. P. CALLAN.

(No Model.)

W. W. JACQUES.

Electric Cable and Conductor.

No. 242,651.

Patented June 7, 1881.

Fig. 1.

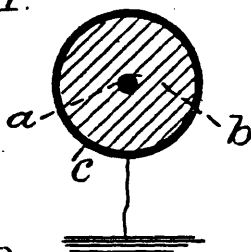


Fig. 2.

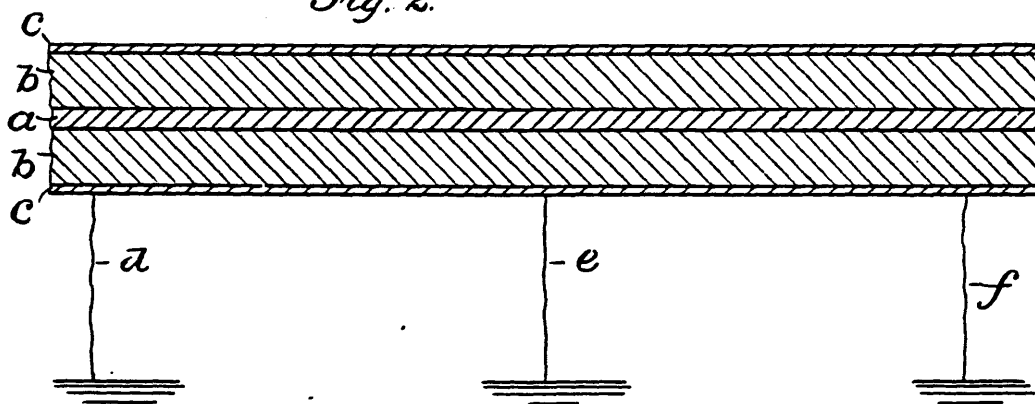


Fig. 3.

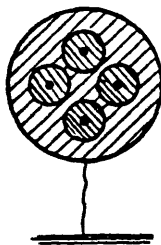
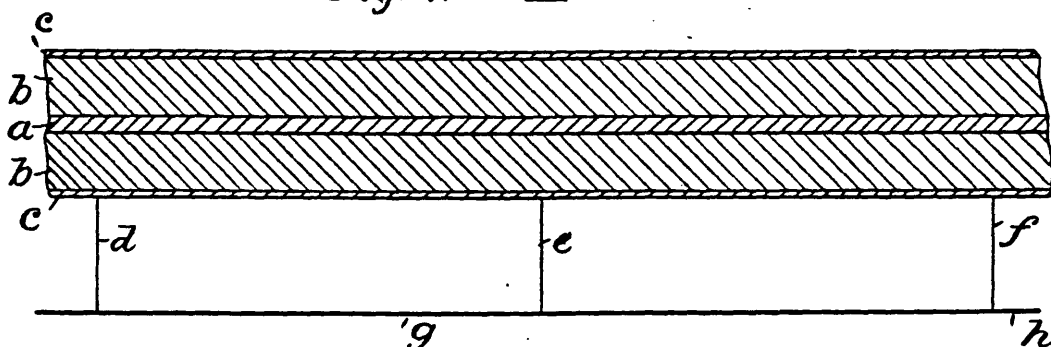


Fig. 4.



Witnesses.

E. Berliner
Geo. Willis Pierce

Inventor;

W. W. Jacques.

UNITED STATES PATENT OFFICE.

WILLIAM W. JACQUES, OF BOSTON, MASSACHUSETTS.

ELECTRIC CABLE AND CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 242,651, dated June 7, 1881.

Application filed April 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. JACQUES, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain improvements in Electric Cables and Conductors, of which the following is a specification.

My invention relates to improvements in electrical conductors, and its object is to enable neighboring conductors to be used at the same time for electrical signals without serious disturbance from one another.

When two or more conductors of electricity are placed near together, as in a cable or otherwise, every signal transmitted over one by the variations of the electrical current will produce in the others corresponding currents, which more or less disturb and interfere with the use of the others for separate and distinct signals, even when each conductor is so perfectly insulated that absolutely no electricity passes from one to another. In the use of such conductors for any very delicate instrument requiring rapid changes of the current—such, for example, as a telephone—this disturbance becomes a source of serious annoyance and inconvenience, even in cables of moderate length, for such instruments, being of necessity made sufficiently sensitive to be affected by the very minute currents which operate upon them, are clearly subject to be influenced by very slight external or foreign currents.

In Letters Patent granted to Dr. Alfred Faucant, May 18, A. D. 1869, No. 90,089, for improvement in cables, is described one method for preventing this annoyance.

Figures 1 and 2 of the drawings show one conductor of a Faucant cable, with its lateral dimensions much enlarged for convenience of representation.

The letter *a* represents the conductor; *b*, the insulating material, such as gutta-percha, kerrite, or fiber of cotton or other substance impregnated with any suitable insulating compound.

c is an envelope or sheath of a conducting material, conveniently made of metal foil, with a rather fine copper wire wound spirally around it. This conducting-envelope is connected to the ground at suitable intervals, *d e f*, by the conductors shown. Several of these protected conductors are made into a cable inclosed in a

suitable protective covering, as in Fig. 3. When a signal is made and the signaling-current begins to flow and ceases to flow, or increases and diminishes in the conductor *a*, electrical changes are produced in the sheath *c*. For example, the potential is raised at the point *e*, and this gives rise to a current which flows around the circuit formed by the envelope *c*, the ground-wire *e*, the earth, another ground-wire, *d* or *f*, and back to the envelope, and thus the electrical equilibrium of the envelope is restored. In order that this operation may proceed with ease and efficiency, it is essential that the circuit over which this equalizing current flows shall be of small total resistance, and in practice it is found desirable to obtain this small resistance by connecting the conducting-envelope to the ground, with short intervals of space between the connections *d e f*—for example, of from one hundred to three hundred feet.

A convenient way of frequently grounding the conducting-envelope and of diminishing the resistance of the equating or compensating circuit is described in Letters Patent granted to Charles E. Chinnock, No. 224,579, bearing date of February 17, 1880; but the conducting-envelope *c* is very close to the conducting-wire *a*, and its intimate electrical connection with the earth, or with any other infinitely large conducting mass of matter, by frequent connecting-wires, introduces the difficulty of retardation or sluggishness of signals. When such a conductor is used, grounded at such intervals as are found desirable to prevent inductive disturbances, the sluggishness thus caused will in a few miles of cable so blur the rapid signals upon which the operation of the speaking-telephone depends that the actual action at the receiver becomes much enfeebled, and the signals are given indistinctly, or are rendered altogether unintelligible.

The object of my invention is to remedy this evil. To that end, instead of grounding the outer envelope by connecting the wires *d e f* to the ground, as in Fig. 1, I carry them to an insulated conducting-wire, *g h*, Fig. 4. This is made of low resistance, and thus affords a circuit of low resistance, while at the same time its inconsiderable size and capacity obviates the difficulty of sluggishness due to the connec-

tion with the great mass of the earth, as shown in Fig. 1, and as heretofore practiced.

I will describe one cable with which I have obtained good results, both as regards distinctness of articulation and freedom from inductive disturbances and interfering signals when the other wires in the same cable were used telephonically, without, however, intending to confine myself to this special process, form, or dimensions.

Fig. 4 represents one insulated conductor of this cable with its metallic conductor connected at intervals to the equating-wire. In this cable the conductor *a* used for the signaling was a copper wire of No. 20 gage, covered with an insulating or non-conducting material, *b*, to No. 10 gage. This was wrapped with metal foil *c*, around which a copper wire of No. 30 gage was wound spirally. The wires *d e f* were copper wires of No. 20 gage and a few inches long, applied at intervals of one hundred feet. The wires *g h* gave a resistance of .03 ohms per hundred feet.

In the case of an overhead cable hung from a suspending-wire, as is often practiced, it is obvious that such suspending-wire, if properly insulated, may be used for the equating-conductor *g h*. The conductor *g h* may also be strapped to the exterior of the cable, and even included in the same protecting-envelope, provided that it is suitably insulated from the conducting envelope *c*, except at the points designated *d e f*; or the armor of a cable can be used for the equating-conductor if insulated from the earth.

All the conducting-envelopes may be con-

nected with one and the same equating-conductor, and preferably would be, instead of employing a separate one for each.

What I claim as my invention is—

1. In an electrical cable or group of electrical conductors, the external conducting and anti-induction surface, screen, mass, or envelope of the insulated signal conducting wire or wires, in combination with the equating-conductor, insulated from the earth and connected to said conducting-envelope by means of electrical connections placed at intervals, and for the purposes set forth.

2. An electrical cable or group of electrical conductors consisting of signal or main line conductors, each surrounded by an insulating covering and incased in a conducting envelope or sheath connected at intervals with an equating-conductor of small mass and capacity, substantially as set forth.

3. The hereinbefore-described method of obviating or preventing both retardation and induction in electrical cables or conductors by connecting the conducting-sheath surrounding the insulated signal-conductor in such cables to an equating-wire or similar conductor at suitable intervals, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 20th day of April, A. D. 1881.

WILLIAM W. JACQUES

Witnesses:

J. B. HENCK, Jr.,
T. D. LOCKWOOD.

M. G. FARMER.

Submarine Telegraph Cable.

No. 97,374.

Patented Nov. 30, 1869.

Fig. 1.

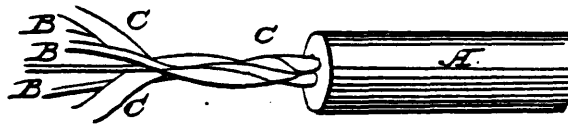
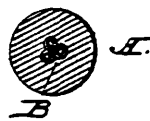


Fig. 2.



Witnesses.
Wm. Morgan.
E. Green Collins.

Inventor
Moses G. Farmer.
per *Munroe*
Attorneys.

United States Patent Office.

MOSES G. FARMER, OF SALEM, MASSACHUSETTS, ASSIGNOR TO THE AMERICAN COMPOUND TELEGRAPH-WIRE COMPANY, OF NEW YORK CITY.

Letters Patent No. 97,374, dated November 30, 1869.

IMPROVEMENT IN SUBMARINE-TELEGRAPH CABLES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, MOSES G. FARMER, of Salem, in the county of Essex, and State of Massachusetts, have invented a new and useful Improvement in Submarine-Telegraph Cables; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view, and

Figure 2, a cross-sectional elevation of my improvement.

Similar letters of reference indicate corresponding parts.

The object of this improvement is to provide a submarine-telegraph cable of simpler, cheaper, and stronger construction than those at present used.

In constructing the ordinary submarine-telegraph cables, it is common to place the conducting-wires, which are usually made of copper, and of small diameter, in the centre of the insulating-substance, around which a series of strong iron wires is woven or secured, for the purpose of giving the necessary strength to the cable. The strengthening-wires are then covered with tarred jute, or other soft covering, and over this, in some cases, an additional covering of strong wires, known as armor-wires, is applied. In this method of construction, the strengthening-wires, by reason of their number and necessarily large size, placed, as they are, upon the exterior of the insulating-substance, add great bulk to the cable, and render its manufacture and manipulation not only expensive, but difficult.

The nature of my invention consists in combining a strengthening-wire or wires with the central electrical conductor or conductors, thus dispensing with the use of strengthening-wires upon the exterior of the insulating-substance.

There are various methods by which my invention may be practically carried out, but the method which I at present prefer is as follows:

I provide one or more small steel wires of great tenacity, B, each of which I cover with a ribbon or sheet of thin copper, C, laid spirally, or in any other manner, upon the strengthening-wires, thus forming compound wires.

The copper forms the necessary electrical conductor. I then cover the compound wires with the usual insulating-substance, A, and upon this, if needed, I place

the usual jute covering; and, if desired, the usual armor-wires may be added.

The conducting-material, instead of being applied, in the form of a ribbon, upon the strengthening-wires, may, if desired, be otherwise arranged; as, for example, the usual copper wires may be twisted in with the strengthening-wires, and the whole then covered with the insulating-substance.

Various other arrangements of the conducting-metals may be employed without departing from my invention.

By the use of my improvement, I produce a submarine-telegraph cable having the greatest attainable strength and conductivity, with the least weight and smallest bulk.

I find, by actual experiment and calculation, that a cable made on my plan, having superior relative strength, and equal conductivity to the present deep-sea Atlantic cable, occupies only one-third of the bulk of the Atlantic cable.

The extraordinary strength and lightness of my improved cable greatly facilitate its manipulation, and the operation of deep-sea laying will be attended with little or no difficulty.

I do not limit or confine myself to the use of any specific number of wires or metals, nor to the precise methods of manufacture herein described.

Various other methods may be adopted by the skilled mechanic without departing from my invention.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. As an article of manufacture, an improved submarine-telegraph cable, consisting of a strengthening-core, conductor, and insulator, surrounded by a jute or hempen buoy, arranged, one upon the other, in the order specified.

2. The method of constructing submarine-telegraph cables, by winding spirally about a tenacious steel strengthening-core, a ribbon of copper, to form the electrical conductor, and by surrounding the compound metallic wire thus formed with any suitable insulator, and this with some buoyant material, all in the manner specified.

MOSES G. FARMER.

Witnesses:

SARAH J. FARMER,
STELLA E. ROWE.

A. FOUCAUT.
Telegraph Cable.

No. 90,089.

Patented May 18, 1869.

Fig. 1.

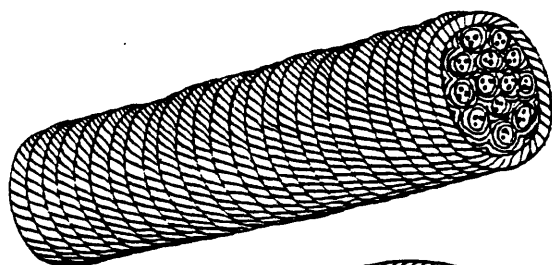
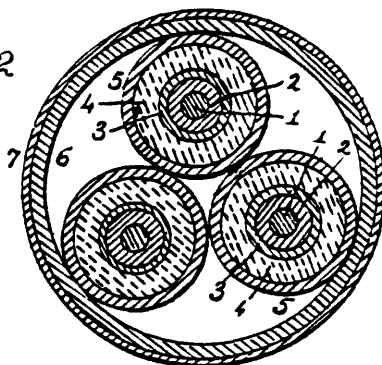


Fig. 2



Inventor

Alfred Foucault.

By B. L. James.

his Atty.

witnesses

J. L. Hathroth

B. L. James.

United States Patent Office.

ALFRED FOUCAUT, OF ORLEANS, FRANCE.

Letters Patent No. 90,089, dated May 18, 1869.

IMPROVEMENT IN SUBMARINE-TELEGRAPH CABLES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ALFRED FOUCAUT, of the city of Orleans, in the Empire of France, have invented a new and useful Improvement in Telegraphic Cables; and I do hereby declare the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the figures of reference marked thereon.

To enable others skilled in the art to make and use my said invention, I will proceed to describe the same.

In making a cable of one or more conductors, I use, as conductors, single copper or other metallic wires, or I twist several smaller wires together, forming one conductor of the proper size.

I cover each conductor with a coating of gutta-percha, or, instead of the gutta-percha, I form a composition of ceruse, or carbonate of lead, finely powdered, and mixed with litharged oil and sawdust to the proper consistency. I then cover the gutta-percha, or composition already described, with a metallic conducting-coating.

I use preferably a coating of piumbago, applied by friction, or a coating of tin-foil, or I wrap a small copper wire, or other metallic wire, in a long spiral around the gutta-percha or composition.

Any conductor, properly applied, will answer the same purpose.

This metallic surface or wire is connected with the ground at each end of the cable, or at any other point or points that may be required to carry off, or properly employ and control all induced currents of electricity.

Over this I wrap a cotton thread, completely covering the gutta-percha, or composition, and the outside conducting-surface, formed as above described.

I then saturate a linen band with a mastic, composed of ceruse, or carbonate of lead, finely powdered, and mixed with litharged oil to a proper consistency, and I wrap the linen band prepared around each conductor already covered, as above described, each turn of the band lapping over the previous turn.

The different conductors are then brought together and wrapped with the same band, and over all is wrapped a tarred rope, of the thickness desired, which is covered with a coating of coal-tar.

Cables for submarine use may be afterward armored, as usual, with iron wires, of a size suitable to the locality and the work which they have to perform.

Figure 1 is a longitudinal section of my invention.

Figure 2 is a vertical section of the same, showing a group of wires contained within the cable, each one of which may be constructed separately and used for telegraphic purposes.

The small figures in said drawing denote the various portions and materials used in the construction of the cable, to wit:

Figure 1 is the wire conductor.

Figure 2 represents gutta-percha, or a composition of ceruse, or carbonate of lead.

Figure 3, a metallic conducting-surface on the out-

side of the gutta-percha, or composition, or tin-foil, or copper wire.

Figure 4, cotton thread.

Figure 5, linen band, saturated with carbonate of lead, or ceruse.

Figure 6, tarred rope.

Figure 7, coating of coal-tar.

The different colors are intended to represent the different materials used, as above.

I am aware that a metallic coating, consisting of a metallic strip, wound around the insulating-material, is not new, but said metallic strip has been used as a conductor of the main current.

This differs from my invention in that my metallic coating acts as a conductor for the induced current alone, and is intended to be used when several conductors are grouped together, as shown in the drawings, which is not the case in the invention above referred to.

It is also an important feature of my invention that the conductors should be placed in connection with the earth.

My method of applying the metallic coating is believed to totally destroy the effects of induction, and is of great efficiency in increasing the transmitting-power of submarine cables.

I am also aware of the patent granted to A. I. B. De Morat, January 20, 1867, and disclaim the mode of construction of cables as by him described in said patent.

What I claim as new, and desire to secure by Letters Patent, is—

1. The construction of a telegraphic cable, in the manner and for the purpose herein described.

2. A conducting-surface for induction-currents, when applied to the outside of the insulating-coating of each group of conductors, in the manner and for the purpose herein described.

3. A band, composed of linen, or analogous material, saturated with a compound of carbonate of lead, and litharged, or other oil, when arranged in a telegraphic cable, in the manner and for the purpose herein described.

4. In a telegraphic cable, the construction of the coatings, formed of gutta-percha, or composition, the metallic conducting-surface, the cotton thread, the band saturated with mastic, and the tarred rope, arranged in the manner and for the purpose described.

5. As an insulating-material, used in the construction of telegraphic cables, the composition, composed of carbonate of lead, or other similar substance, litharged, or other oil, sawdust, or other analogous fibrous substance, in the manner and for the purpose herein described.

In witness whereof, I have hereunto set my hand, this 26th day of December, 1868.

Witnesses:

DR. FOUCAUT

W. HAUFF,

S. L. MAGOUN.

A. J. B. De MORAT.

Telegraph Cable.

No. 61,325.

Patented Jan. 22, 1867.

Fig. 1

Fig. 2

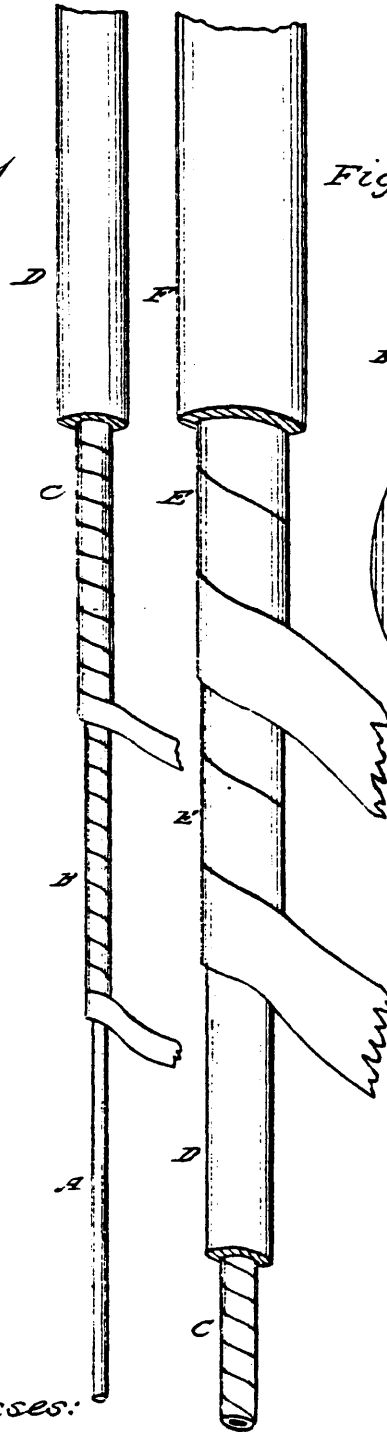
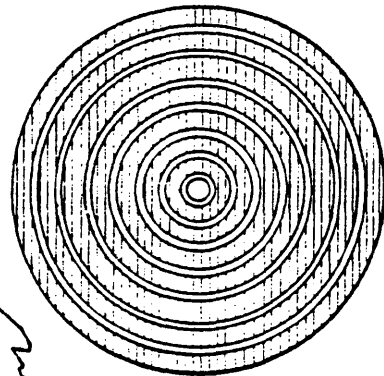


Fig. 3

End view with seven conductors:



*Magnified
about three diameters*

Witnesses:
S. Newton Pierce
& Oscar Jones

Inventor:
A. J. B. De Morat

United States Patent Office.

ALEXANDER J. B. DE MORAT, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 61,325, dated January 22, 1867.

IMPROVEMENT IN TELEGRAPHIC CABLES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ALEXANDER JOHN BAPTISTE DE MORAT, of Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented a new and improved Telegraphic Cable; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction of a telegraphic cable with one or more perfectly unbroken continuous tubes or cylinders, made by helically wound metallic strips, insulated internally and externally, and so constructed that when strained or stretched, the conductive power of the cylinder remains unimpaired, and always in a direct line and not spiral. By means of cylinders or tubes, the number of conductors in one cable may be increased indefinitely, without many of the objections that now exist in other cables where more than one conductor is made and attempted to be used. To those trying this cable, the advantages are so readily apparent that it is unnecessary to enter into a discussion of them.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction.

I take one or more steel, iron, or copper, or other metallic wires, as at A, Figure 1, and wind closely around this a strip or band of copper, or other metal, in a spiral manner, as at B, fig. 1, and over the joints of this spiral covering I wind another metallic strip in a similar manner, but carefully breaking the joints of the first, as at C, fig. 1. The whole is then covered with thread, gutta percha, or other insulating material, as at D, fig. 1. If another cylinder is desired, I wind, closely and spirally, two more metallic strips, the second over and breaking the joints of the first, in like manner as the first cylinder; as at E and E, Figure 2. and this again coated with insulating material, as at F, fig. 2; and this process is continued until any desired number of cylinders is attained. Several small cables, like fig. 1 or fig. 2, may be bound firmly together and insulated, and thus form a double or compound cable. The whole cable is then covered with jute or otherwise protected as in other cables.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction of a telegraphic cable, by means of insulated tubes or continuous cylinder or cylinders, formed of helically wound strips, in such manner as to preserve uninterrupted linear conduction in case of stretching, as herein set forth, or any other substantially the same, and which will produce these intended effects.

ALEXANDER JOHN BAPTISTE DE MORAT.

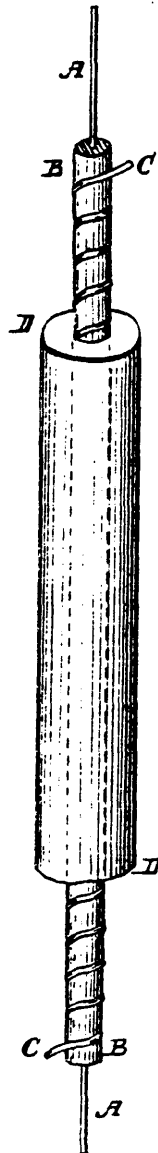
Witnesses:

I. NEWTON PEIRCE,
A. OSCAR JONES.

J. N. PHELPS.
Telegraph Cable.

No. 59,318.

Patented Oct. 30, 1866.



Witnesses:
A. Le Clerq
J. W. Coombs

Inventor:
James M. Phelps

UNITED STATES PATENT OFFICE.

JAMES N. PHELPS, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF
AND JOSEPH BAILEY, OF THE SAME PLACE.

IMPROVEMENT IN TELEGRAPH-CABLES.

Specification forming part of Letters Patent No. **59,318**, dated October 30, 1866; antedated
October 16, 1866.

To all whom it may concern:

Be it known that I, JAMES N. PHELPS, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Insulated Electric Conductors for telegraphic or other purposes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, said drawing representing a piece of a telegraph-cable constructed according to my invention, with portions of the insulating material removed to expose the conductors to view.

It has been desirable, more especially for submarine and other subaqueous telegraphs, to obtain insulated electric conductors which would be elastic or capable of extension in the direction of their length without having their insulation impaired, and therefore not liable to be broken or injured by any lateral drag or pressure to which they might be subject from any body passing over and in contact with them; but, as far as known to me, no conductor has hitherto been invented which has possessed these essential requisites in a suitable degree to render its use practicable.

The object of this invention is to supply the above-mentioned want; and to this end it consists, first, in a conducting-wire with a loose tubular covering of india-rubber or other elastic insulating material; and, secondly, in a metallic conductor of spiral form coiled around a core of india-rubber or other elastic material and covered with a sheath of similar material; and, thirdly, in the employment, in a cable, of the spiral metallic conductor coiled around an elastic core, which also constitutes a loose covering to a central conducting-wire.

In the cable represented in the accompanying drawing the several features of my invention are all illustrated.

A is the central conductor, of simple copper or other wire.

B is the tubular covering, of india-rubber or other elastic insulating material, so fitted to the said wire as to be capable of longitudinal extension independently of the wire A, which is capable of extension. This tubular covering of elastic insulating material serves

also as the core around which the spiral metallic conductor C is tightly wound. This conductor C, I prefer to make of a thin flat ribbon of copper.

D is the outer sheath, of india-rubber or other elastic insulating material, applied tightly outside of the core B and spiral metallic conductor C. This sheath may be protected by an armor of metallic wire or other suitable material in cases in which such protection may be necessary or desirable.

When the cable thus constructed is laid the ends of the elastic loose tube or core B and outer sheath are to be firmly secured; but the ends of the central conductor A are to be wound on reels, to which springs are applied in such manner as to permit the said conductor to be unwound by any unusual strain or drag upon the cable, by which the elastic core and sheath are stretched and caused to slip lengthwise on the said conductor; and when the said strain is removed the springs will turn back the reels, and so cause the wire to be wound up again as the elastic core and sheath resume or approach their normal condition. In the stretch of the cable the coil of the spiral conductor is elongated in the direction of the length of the cable, and as the elastic core and covering resume or approach their normal condition by reason of their elasticity they contract the length of the coil of the spiral conductor.

The spiral conductor may be covered with a sheath of thin elastic insulating material, and another similar conductor be applied outside of the said sheath, which forms a core to the latter conductor. This additional conductor should be also protected by an outer sheath, or two or more conductors may be coiled at suitable distances apart on one core.

What I claim as my invention, and desire to secure by Letters Patent, is—

The employment, in a cable, of one or more spiral metallic conductors, C, wound around a core of india-rubber or elastic insulating material, B, which constitutes a loose insulating covering to a central conductor, A, substantially as herein described.

JAMES N. PHELPS.

Witnesses:

J. W. COOMBS,
A. LE CLERC.

UNITED STATES PATENT OFFICE.

SAMUEL C. BISHOP, OF NEW YORK, N. Y., ASSIGNOR TO THE BISHOP
GUTTA PERCHA COMPANY, OF SAME PLACE.

IMPROVED COMPOSITION FOR INSULATING TELEGRAPH-WIRES.

Specification forming part of Letters Patent No. 46,750, dated March 7, 1865.

To all whom it may concern:

Be it known that I, SAMUEL C. BISHOP, of the city, county, and State of New York, have invented a new and Improved Composition for Insulating Telegraph-Wires; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of this invention is a composition which will serve to insulate telegraph-wire running under ground, and particularly under water, and to effect this purpose a composition must be used which is absolutely impervious to water, and which shall protect the wire, even if the same should be immersed to a considerable depth.

The composition consists of gutta-percha or india-rubber and paraffine mixed with rosin and wheat-flour; or, instead of these two latter ingredients, white oxide of zinc, catechu, and gelatine or glue may be used. The proportion in which I mix these ingredients together is about as follows: gutta-percha or india-rubber, four parts; paraffine, one part; wheat-flour, two parts; rosin, one part; or, instead of this, gutta-percha or india-rubber, six parts; paraffine, two parts; white oxide of zinc, one part; catechu, (or any other material containing tannic acid,) one part; gelatine or glue, two parts. These ingredients are mixed to-

gether either in solution or by heated rollers, and the telegraph-wire is coated with it in any desirable manner.

It will be observed that in both mixtures given above the gutta-percha or india-rubber and paraffine form the basis. In the first composition wheat-flour and rosin are mixed with the same, and these ingredients are replaced in the second composition by tannate of gelatine formed by mixing glue with catechu or any other material containing tannic acid, and by white oxide of zinc. The tannate of gelatine is particularly intended to render the composition impervious to water; but this object is also effected by mixing the gutta-percha or india-rubber and paraffine with rosin and wheat-flour.

I claim as new and desire to secure by Letters Patent—

A composition for insulating telegraph-wire, consisting of gutta-percha or india-rubber and paraffine mixed with either rosin and wheat-flour or with a tannate of gelatine and white oxide of zinc, substantially in the manner and about in the proportion herein set forth.

SAM. C. BISHOP.

Witnesses:

HENRY S. VALENTINE,
M. M. LIVINGSTON.

W. H. JOHNSON.

Telegraph Cable.

No. 25,739.

Patented Oct. 11, 1859.

Fig. 1

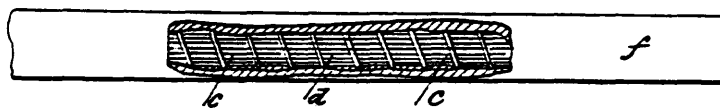


Fig. 3

Fig. 2

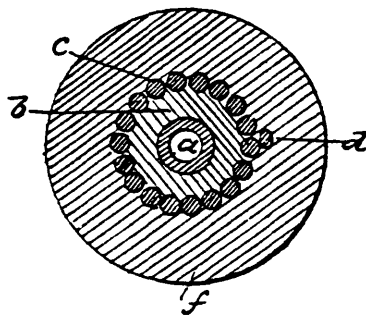


Fig. 4



Witnesses
Horrobach
P. S. Schumacher

Inventor
William H. Johnson

UNITED STATES PATENT OFFICE.

WILLIAM H. JOHNSON, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVED TELEGRAPHIC CABLE.

Specification forming part of Letters Patent No. 25,739, dated October 11, 1859.

To all whom it may concern:

Be it known that I, WM. H. JOHNSON, of Springfield, in the county of Hampden and State of Massachusetts, have invented certain Improvements in Electric Conductors for Transmitting Telegraphic Signals, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a portion of a submarine telegraph-cable, part of the coating being broken away to show the wires within; Fig. 2, a transverse section of the same; Fig. 3, the same enlarged.

Heretofore solid wire has been used as a conductor for transmitting telegraphic messages, but it has been found that when its surface is exposed to the action of the elements, particularly of water, that the current of electricity is weakened by being carried off from the surface of the wire. To remedy, in a measure, this defect, the wire has been coated with various materials of a less electric conductivity than the wire itself. This precaution in submarine telegraphing seems to be absolutely essential, as the wire would otherwise be in constant and immediate contact with the surrounding water; but on land routes it is generally omitted on account of the additional expense of constructing the line, and the plain wire is found to answer very well for the transmission of messages during the ordinary conditions of the surrounding atmosphere. But when the uncoated wire is exposed (as frequently occurs) to storms and peculiar electric changes of the atmosphere, the electric current is carried off from the surface of the wire to such an extent as to interrupt and frequently entirely prevent the transmission of messages over the line. Further, the plain wire is found to act better in the ordinary conditions of the atmosphere than that which is coated with gutta-percha or other materials, showing that a clear and unobstructed surface gives a more efficient action to the conductor.

To obtain such a surface and yet be able to

protect the conductor from extraneous influences is the object of my present invention, which consists in the employment of a conductor of such form that while it may be protected by an external coating there will yet be a considerable amount of surface throughout its whole length left free and not in contact with the coating. The form which I prefer is that of a plain tube. On land routes the tube may be simply coated with some material, such as gutta-percha, to protect its outer surface from being affected by the external influences which are usually found to be detrimental to the efficient action of an electro-telegraphic conductor, while its inner surface remains perfectly free; or, for submarine telegraphing, it may form part of a cable, such as is represented in Figs. 1, 2, and 3 of the drawings, in which—

a is the tube or conductor; *b*, a coating of gutta-percha, which surrounds it. Over this are placed the wires *c*, which lie parallel to the axis of the tube, and are held in position during the construction of the cable by a thin wire, *d*, which is wound spirally around them. The outer coating, *f*, of gutta-percha, is then applied, which binds the whole into one solid mass.

There are other forms of conductor which can be used and the same end be obtained. I cannot here enumerate them all, but will describe one, as shown in section, Fig. 4: The solid wire *B* has projections 2 and recesses or grooves 3 along its length. The coating *g* may be drawn over the wire in a thin sheet or tube or be wound around it, when the wire will be protected, while the surface in the grooves 3 will be free.

What I claim as my invention, and desire to secure by Letters Patent as a new article of manufacture, is—

An electro-telegraphic conductor constructed in the manner and for the purpose set forth.

WILLIAM H. JOHNSON.

Witnesses:

THOS. R. ROACH,
P. E. TESCHEMACHER.

(No Model.)

E. Z. COLLINGS.

Underground Electric Conductor.

No. 243,215.

Patented June 21, 1881.

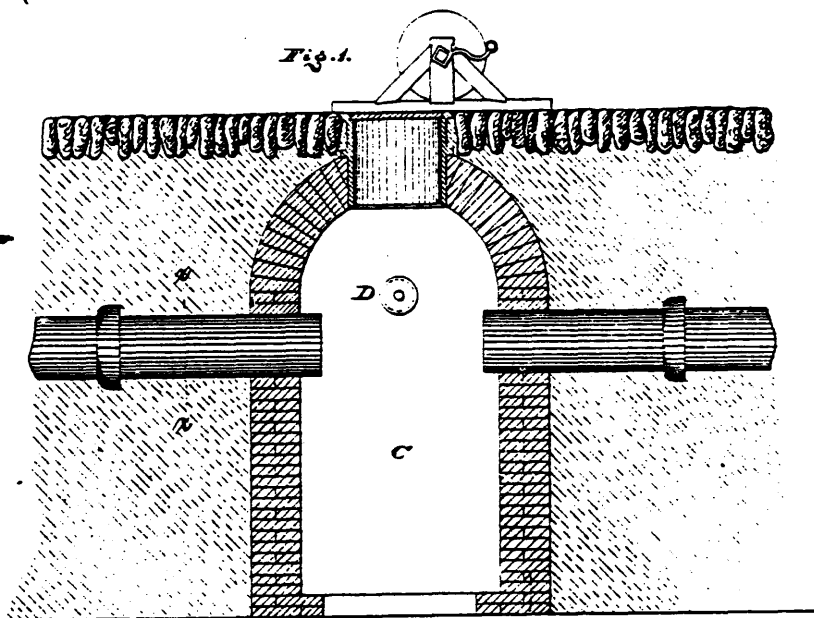


Fig. 2.

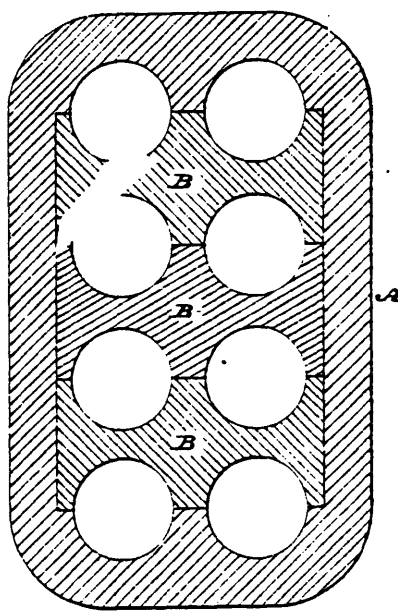
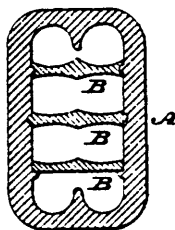


Fig. 3.



Witnesses:

As P. Grant,
H. F. Fischer

Inventor:

Edward Z. Collings,
by *Paul G. J. Schum*
ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD Z. COLLINGS, OF CAMDEN, NEW JERSEY.

UNDERGROUND ELECTRIC CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 243,215, dated June 21, 1881.

Application filed March 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWARD Z. COLLINGS, a citizen of the United States, residing at Camden, in the county of Camden, State of New Jersey, have invented a new and useful Improvement in Underground Electric Conductors, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a view showing the conductor embodying my invention in position. Fig. 2 is a section, enlarged, in line *x x*, Fig. 1. Fig. 3 is a section of a modification.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of an underground electric conductor formed of lengths of tubing and detachable or separated trays fitted within the same, whereby when the tubing is laid the trays may be conveniently located and provide means for supporting, inclosing, and separating the electric wires or cables.

It also consists of testing-stations adapted for operating from above the ground the wires or cords which draw the electric wires or cables through the conductors.

Referring to the drawings, A represents a tube or tubing, formed of glazed terra-cotta, glass, or other suitable material, properly laid in the earth in the direction the electric wires or cables are to run.

B represents a series of trays, which are adapted to be placed one above the other, support each other in the tube A, and fill the space thereof. On the upper and lower faces of the trays, or one face of each, are horizontally-extending channels *a*, for the reception of the electric wires or cables.

The tubing is laid in lengths or sections properly connected, and the trays B are run thereinto at one end and pushed along the required extent, and the electric wires or cables

are then introduced into and passed through the channels *a*, the latter thus acting to inclose, support, and separate the wires or cables. As the trays are formed separately from the tubing or shells A, the channels *a*, not liable to become distorted in the process of construction of the trays, will be found to be uniform and unobstructed.

In Fig. 3 I show a modification, where the trays are supported on ledges formed on the sides of the inner face of the tube.

The conductors lead into testing-stations C, located in the ground at proper distance apart, formed of a water-proof and suitably-closed vault, provided with one or more rollers, D, properly mounted within the same, over which the drawing-wires connected to the conductors may be run for the purpose of operating said wires outside of the stations, as shown in Fig. 1, said operation being conveniently accomplished without the necessity of the workman remaining in the station longer than is necessary to start the work.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A series of detachable trays, B, each having one or more grooves on both its upper and its lower side, in combination with a tube which incases said trays and holds them together, so that each lower groove of one tray and the corresponding upper groove of the tray below it will form a passage for a line-wire, substantially as set forth.

2. The tube A, having semi-cylindrical interior grooves at both ends, in combination with detachable grooved trays B, substantially as set forth.

E. Z. COLLINGS.

Witnesses:

JOHN A. WIEDERSHEIM,
F. COOPER.

E. H. AUSTIN.
Subterranean Telegraph Lines.

No. 138,115.

Patented April 22, 1873.

Fig. 1.

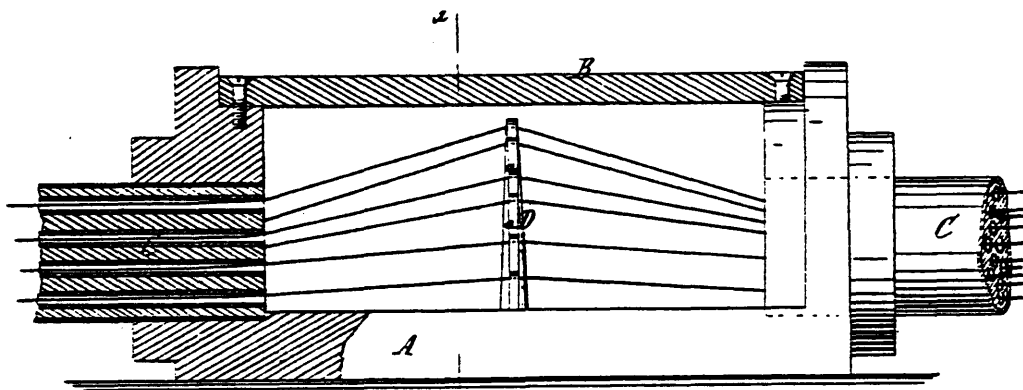
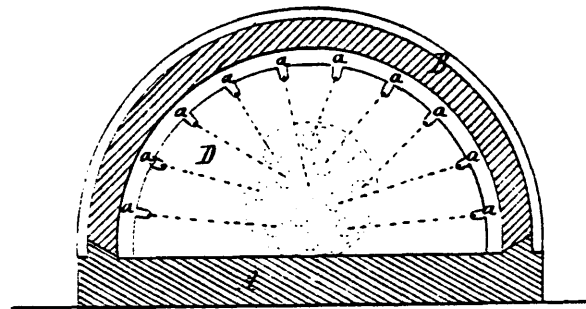


Fig. 2.



Witnesses
W. Hunt,
E. F. Kastenhuber

Inventor.
Elijah H. Austin

UNITED STATES PATENT OFFICE.

ELIJAH HARRISON AUSTIN, OF NEW YORK, N. Y.

IMPROVEMENT IN SUBTERRANEAN TELEGRAPH-LINES.

Specification forming part of Letters Patent No. 138,115, dated April 22, 1873; application filed February 26, 1873.

To all whom it may concern:

Be it known that I, ELIJAH HARRISON AUSTIN, of the city, county, and State of New York, have invented a new and useful Improvement in Conductors for Telegraph-Wires; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a longitudinal section of this invention. Fig. 2 is a transverse section of the same.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of an insulated bridge inclosed in a box which forms the connecting-link between sections of pipes which inclose one or more telegraph-wires in such a manner that, by opening said box, access can be had to the wire or wires whenever it may be desirable.

In the drawing, the letter A designates a box, made of cast-iron or any other suitable material, and provided with a cover, B, so that by removing said cover access can be had to the interior of the box. The ends of the box connect with pipes C C, which represent sections of a conductor for telegraph-wires, and which may be arranged with one or more passages, according to the number of telegraph-wires to be passed through the same. In the interior of the box A is secured an insulated bridge, D, provided with one or more notches, *a*, (see Fig. 2,) through which the wires are passed.

By this arrangement easy access can be had to any part of the telegraph wire or wires, and repairs can be effected with facility. The conductors C C may, for instance, be used in cities for the wires of fire-alarm telegraphs. In this case said conductors are

provided with a multiplicity of passages, one insulated from the other, so as to make room for the required number of wires. If the conductors are placed under ground and one of the wires gets broken or inoperative, it is impossible to repair the same without much trouble and expense, and for this reason subterranean conductors for telegraph-wires have not been considered practical. But by my improvement I am enabled to repair each wire with the greatest facility. The bridge containing boxes A will be distributed at suitable intervals along the line, and if either of the wires becomes inoperative, it can readily be determined by an electrometer where the faulty place exists in the wire, and by opening the boxes next to this place the fault can be remedied without much trouble.

In order to facilitate the operation of picking out the faulty wire, the notches in the bridges are numbered to correspond to the number of the wires, and if it is found, for instance, that wire 4 is inoperative, this wire is easily picked out by opening the boxes and looking at the numbers marked on the bridges.

By my improvement subterranean conductors for telegraph-wires are rendered practicable, and any repairs which may be required on such wires can be made with as much ease as on wires suspended on poles.

What I claim as new, and desire to secure by Letters Patent, is—

The arrangement of boxes A containing insulated bridges D between the sections C C of a conductor for telegraph-wires, substantially as and for the purpose herein shown and described.

ELIJAH H. AUSTIN.

Witnesses:

W. HAUFF,
E. F. KASTENHUBER.

W. MACKINTOSH.
Underground Telegraph Lines.

No. 146,695.

Patented Jan. 20, 1874.

Fig. 1.

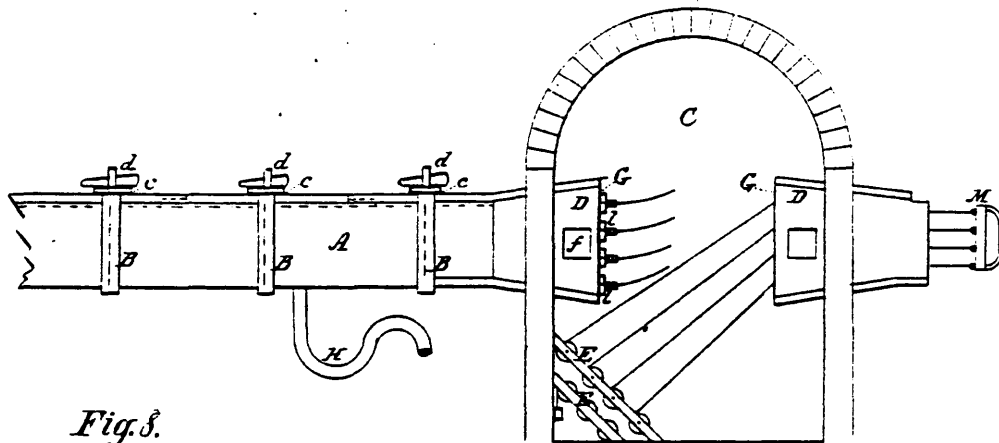


Fig. 3.

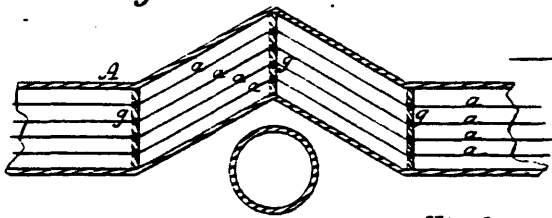


Fig. 2.

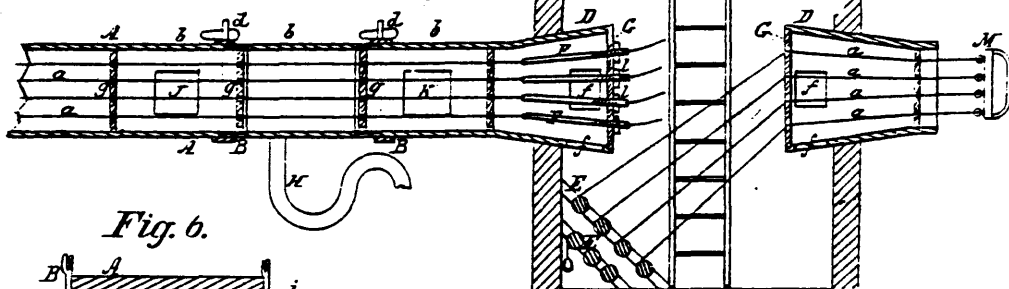


Fig. 6.

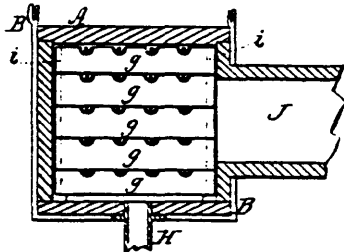
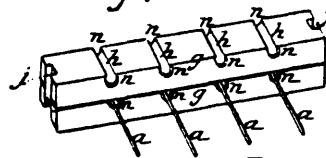


Fig. 7.



Witnesses:

Wm. Anderson.
Harry Coleman.

Inventor:

William Mackintosh.

By *John H. Hancock & Co.*
his Attorneys

W. MACKINTOSH.
Underground Telegraph Lines.

No. 146,695.

Patented Jan. 20, 1874.

Fig. 3.

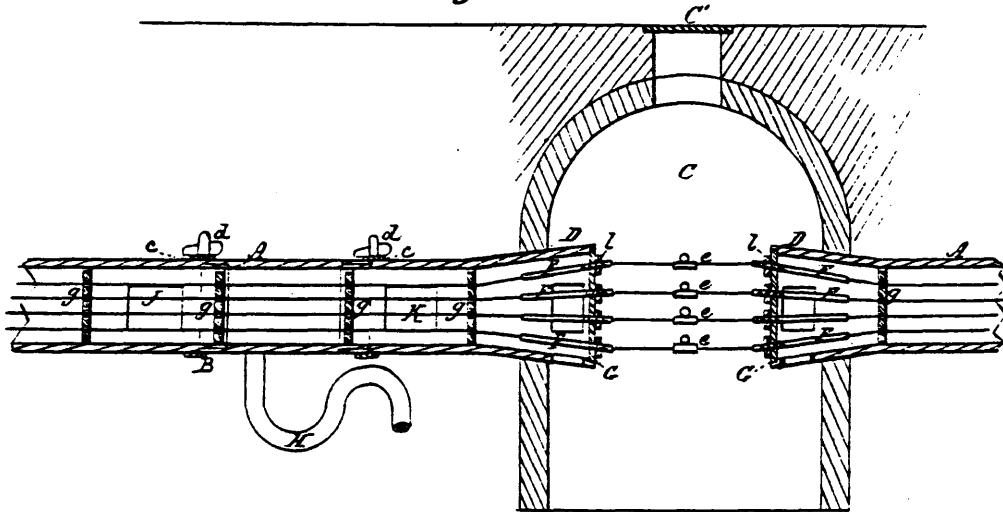


Fig. 4.

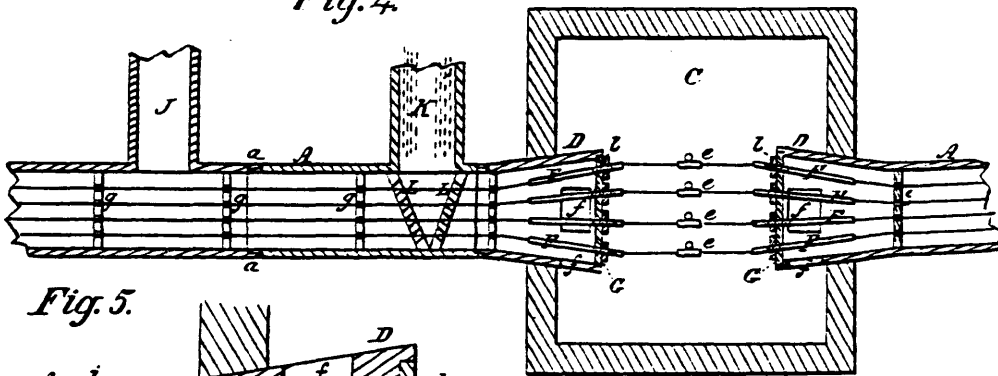
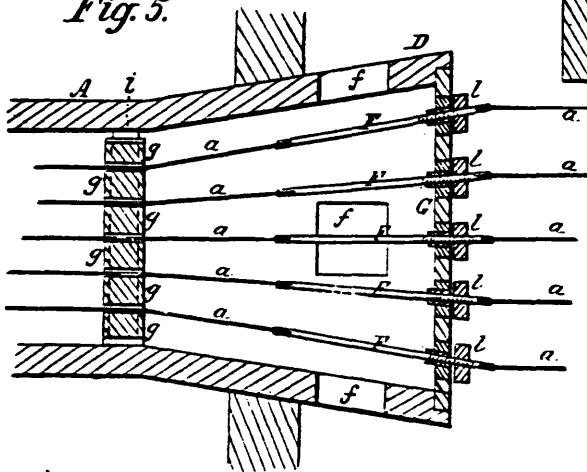


Fig. 5.



Inventor:

William Mackintosh

By Johnson, Kluske & Co.
his Attorneys

Witnesses:

Wm. S. Anderson
Harry Coleman

W. MACKINTOSH.
Underground Telegraph Lines.

No. 146,695.

Patented Jan. 20, 1874.

Fig. 9.

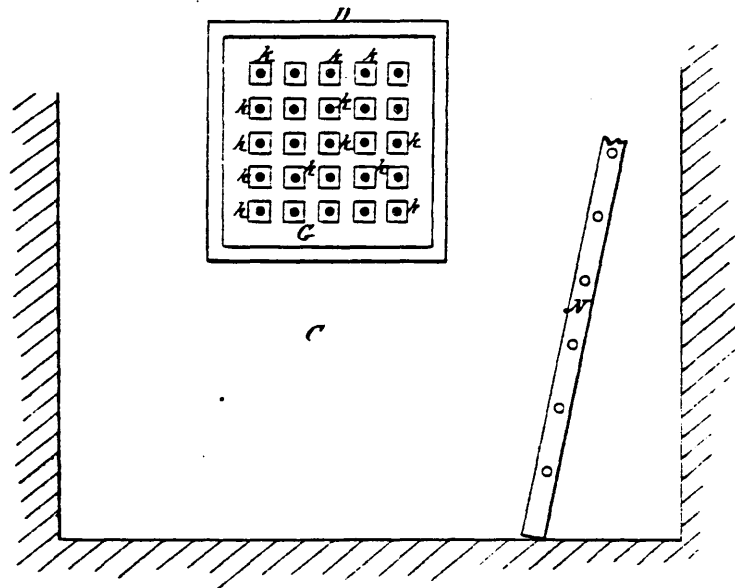
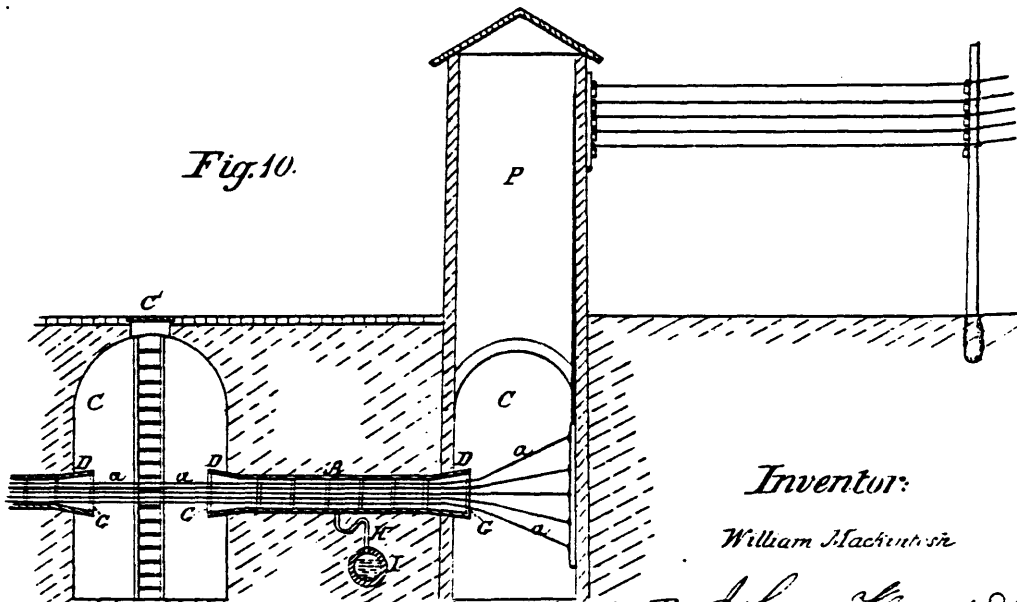


Fig. 10.



Inventor:

William Mackintosh

By *Johnson, Hines & Co.*
His Attorneys

Witnesses:

Wm. Anderson
Harry Coleman

UNITED STATES PATENT OFFICE.

WILLIAM MACKINTOSH, OF NEW YORK, N. Y.

IMPROVEMENT IN UNDERGROUND-TELEGRAPH LINES.

Specification forming part of Letters Patent No. 146,695, dated January 20, 1874: application filed February 27, 1873.

To all whom it may concern:

Be it known that I, WILLIAM MACKINTOSH, of the city and county of New York, in the State of New York, have invented certain new and useful Improvements in the Construction of Underground-Telegraph Line Wires and method of laying the same, of which the following is a specification.

My invention relates to telegraph-line wires arranged underground and in which said line-wires are inclosed within a trunk; and the improvements which I have made in the construction and method of carrying out the system will be hereinafter described in connection with the accompanying drawings, which form a part of this specification, and in which—

Figure 1, Sheet 1, represents an elevation of a section or portion of a trunk telegraph-line way in connection with an underground vault, and showing the wires as being laid from said vault. Fig. 2, Sheet 1, represents a vertical longitudinal section of the same, showing a section of the system of wires laid and the method of laying another section. Fig. 3, Sheet 2, represents a similar section, showing the wires connected within the vault. Fig. 4, Sheet 2, represents a horizontal section of the same. Fig. 5, Sheet 2, represents a similar section of one end of the trunk on an enlarged scale. Fig. 6, Sheet 1, represents a transverse section of the trunk, showing the arrangement of the separate insulating-bars for the wires. Fig. 7, same sheet, represents a view in perspective of two of the insulating grooved bars detached from the trunk. Fig. 8, same sheet, represents a view showing the trunk diverted to pass over a gas or water pipe. Fig. 9 represents a section of the working-vault, showing the entering guide insulating plate in elevation; and Fig. 10, a view showing the tower of the vault at the city limits, where the lines join the telegraph-poles.

The trunk A for receiving the wires *a* is embedded in a trench a suitable depth beneath the surface, either in the street or sidewalk when used in cities. It is made in sections of any suitable lengths and of any material adapted for the purpose; but I prefer glazed stone or earthenware tubing. These sections are connected together by lap-joints, so as to admit of their being taken apart and put together for the purpose of repairing the trunk

if broken, or the wires themselves, without interfering with the working of the wires or with any other section of the trunk; and for this purpose the sections are made to break joints with the cover, and to be secured together by clamp B at the ends of each section, and also at the ends of each cover and the middle of each section, so that the trunk will be self-sustaining should it become necessary to dig out the street crossing the trunk in laying sewers, gas or water pipes. This is very important in cities in avoiding many difficulties which might occur in opening streets and replacing sections which may from other causes become broken. The binding-clamps B are of staple form, applied to the trunk with its upper ends joined by a horizontal plate, *c*, and keyed by keys *d*, so as to allow the clamps B to be taken off at any section and easily replaced. The covers of each section are tongued on their under sides, so as to dovetail in the adjacent cover, or they may be left square, and the clamp-plates cemented over the joints to make the trunk tight.

At any proper intervals along the underground trunk I arrange a vault, C, built also beneath the surface of the ground, to be entered by a trap-door, C', from above, or from an arched passage-way from the cellar of adjoining buildings. Through the vertical walls of this vault the opposite ends of the trunk A pass, and terminate in flaring or bell-mouthed projecting ends D. This vault is designed as a working-chamber, from which the wires *a* are laid through the trunks from one vault to the other; also, as a means for testing the wires in the trunk between the vaults for the purpose of locating trouble on the wires; also, when a wire is found to be defective, to allow such defective wire to be drawn through the trunk, pulling after it a perfect wire, to replace the defective one without digging up the street or removing the sections. The vaults may be built of any suitable material and form, having sufficient size to afford working capacity, and to receive reels E, Figs. 1 and 2, from which the wires are laid from vault to vault, the method of effecting which will be hereinafter described.

The flaring terminus D of each end of the trunk within the vault is for the purpose of spreading the wires *a* farther apart as they

enter, and also within the vault, to afford room for working on the ends of the wires, first, to join them within the vault by the binding-screws *e*, Figs. 3 and 4; second, to allow the wires to be readily opened for testing purposes; and, third, to afford room directly within the mouth of the trunk for the location and arrangement of tightening-screws *F* for the separate wires, and to enable the operator to pass his hand between the wires to enter the tightening-screws through an insulating guide-plate, *G*, to be hereinafter described, and to effect which the flaring mouth *D* is provided with suitable openings, *f*, within the vault. Within the trunk the wires are arranged and supported upon insulating cross-divisions *g*, preferably situated at one end of each trunk-section, and in practice from fifteen to twenty feet apart, more or less, as occasion may require. For instance, should it be necessary to deflect the trunk to pass over a gas or water pipe which may be in the line of the trunk, the apex and base of such bend or angle must have these division-supports, as shown in Fig. 8 of the drawings.

The cross-divisions *g* may be of glass or any insulating material, and they are made in separate and distinct bars, one side of each having grooves or perforations *h* to receive and hold the wires. These holding-bars *g* are arranged one above the other, and the wire strands are therefore placed between them in separate series on layers, the perforated side of one bar being adjacent to the solid side of the next bar, and in this way separate and hold the different layers of wires distinct, the several layers being inserted each at a time (commencing from the bottom of the trunk) and the insulators laid one upon the other, the distinguishing feature and advantage of which is that each bar *g* is made removable, so that an entire section or number of sections of the trunk can be removed with its insulating division-bars and replaced when required without disturbing or interfering with the wires. These separate division-holding bars are secured in place within the trunk by tongue *i* and grooves *j* in the ends of the bars *g* and on the inner sides of the trunk *A*, so that they need no fastening, but can be slid in and out to their places one upon the other.

It will be observed that the ends *n*, Fig. 7, of each groove or perforation *h* in the insulating holding-bars *g* for the wires are made flaring for the purpose of allowing the wires to be drawn through the bars without catching or tearing the rubber or coating from the wire when such wire is used.

The flaring or projecting mouth *D* of the trunk within the vault *c* is provided with an insulating entering guide-plate, *G*, having as many perforations or holes as there are wires within the trunk. This plate I prefer to make of an iron frame or lattice-work with bull's-eye glasses *k*, Fig. 9, in which the perforations are made to receive pieces of hard-rubber tubing to form seats for and hold solid screw-stems

F, into the opposite ends of which the ends of the line-wires are secured in any suitable manner. The object of these screw-stems is to tighten the wires within the trunks between the vaults, and thus keep them at regular distances apart, which I effect by means of screw-nuts *l*, Fig. 5, on the outer ends of the screw-stems, arranged to bear against the face of the insulating-plate *G* within the vault. The screw-stems *F* are from twelve to eighteen inches long, in order to afford a proper tension through the trunk and give ample adjusting length to compensate for any slack of the wires. This insulating-plate *G* may be secured in any suitable manner in its seat; but I prefer to fit it within grooves formed in the end of the trunk.

In laying the trunk it will of necessity be made to conform to the surface of the street, and will therefore be more or less a departure from a level or horizontal line. This will produce bends or depressions in the trunk which might catch and hold water from leaks in the trunk. To drain the latter, therefore, I arrange at such low points of grade a pipe, *H*, connecting with the bottom of the trunk and leading to the street-sewer *I*, the said pipe to have a bend or stench-trap in it to form a seal to said pipe, and thus prevent foul air and insects from passing into the trunk. In addition to this drain-pipe *H*, I ventilate the trunk by means of a pipe, *J*, leading from the trunk beneath the sidewalk to connect with the chimneys of high houses, so as to produce a draft of air through the trunk, and this ventilation, in connection with the drain-pipe *H*, will keep the trunk perfectly dry.

The main trunk may be provided with branch trunk *K*, leading into stations or telegraph-offices at desirable points between the vaults, into which the line-wires may be diverted or branched off to suitable connections, as shown in Fig. 4 of the drawings, the trunk for that purpose being provided with suitable diverging or angle insulating-bars, *L*.

One of the chief features of my invention is involved in the method of laying the line-wires in the trunk and of removing and replacing defective wires. This is carried out in the following manner: A section of the trunk having been completed, the wires to be laid in the trunk are upon reels or spools *E*, placed upon portable frame-work in the vault, being arranged so that any suitable number of spools can be used at the same time. The wire from the spools, each from its proper spool, is then led into and through the insulating entering plate *G* and through the first division of the insulating-bars *g*, which is arranged near the insulating-plate in the vault, as shown in Figs. 1 and 2. When all the wires are thus entered within the trunk their ends are then connected to a draw-head, *M*, by which all the wires are drawn from the reels as fast as each section of the trunk is completed, the insulating division-bars *g* being placed in their proper positions at the same time within the trunk to re-

wire the wires. In this way all the wires are laid at once as the work progresses of laying the trunk, so as to avoid opening the street for any great distance at a time. This operation is carried on between vaults.

When the second vault is completed the ends of the wires are secured upon their tightening-screws F, which are fastened by nuts I, as described, to the insulating-plate G. The opposite ends of the wires are then drawn to a proper tension in the first vault, cut off, and secured to the tightening-screws, as in the second vault. The screws F at both ends are then adjusted to give the wires the proper tightness to keep them apart through the trunk. In like manner another section of wires is drawn through the trunk from the second to the third vault and secured, the draw-head M being in each operation made the means of drawing the wires. The ends of the wires within the second vault leading through both trunks between vaults are then connected by means of binding-screws e, Figs. 3 and 4, so as to form continuous wires, and which will admit of being opened within each vault for testing purposes without cutting the wires.

The arrangement of the working-vaults and the junction of the several lines of wires therein afford great facility for the removal and replacement of any wire which may be found to be defective. This is done by disconnecting the wire from the screw in one of the vaults and connecting the end of another perfect wire to that of the defective wire, then pulling the defective wire through the trunk into the next vault, thus drawing the perfect wire through the trunk and its several insulating divisions by the agency of the defective wire, after which the perfect wire is secured and connected at both ends with the screws and continuous wires, as heretofore described. In joining the ends of the defective and perfect wires care should be taken to make the joint perfectly smooth by filing the ends of the wires to a point previous to making the joint and soldering the joint when made, so that it will readily pass through the insulating-bars g and between the other wires without catching or tearing the coating off the wires. Should the trunk be run through vaults connected with buildings under the sidewalk or street, it can be suspended by the clamp B from the roof of the vault. The trunk being in sections, and the holding and insulating bars g also in separate and independent sections, the trunk-sections may be removed and replaced, or the wires and division-bars lifted out of the trunk to repair any damage, or for any other reason which may be found necessary to make their removal. In drawing the wires into the trunk it is designed to have a number of space-wires in proper connection to meet future demands of an increase of business, so that it will not be required to open the trunk at any time for this purpose.

The line-wires may be connected upon a switch-board within the working-vaults for the purpose of cross-connecting line-wires in the vaults when necessary, the vault being easily accessible by trap-door C' and ladder N, or by entrance from adjoining cellars.

My invention is equally applicable for through-lines; but should it be deemed best at the city limits to connect the wires to the usual telegraph-poles I erect a tower, P, about thirty feet high upon the last vault, into which the wires from the trunk lead and connect with those on the pole, thus combining the underground with the elevated line telegraph-wires. This tower P also serves a very important and useful purpose as a ventilator for the trunk in connection with the other ventilators described. A grooved pole may be used instead of a tower. To keep the trunk and wires dry, I produce a draft through it either by forcing or sucking air through it by suitable blowers arranged at suitable places along the line, and thus avoid all difficulty which might arise from dampness of the wires.

Having thus described my invention, I claim—

1. The combination of the insulating guide-plates G, the insulating supporting-bars g, the draw-head M, and the reels E with the hollow trunk-sections and the working-vaults C, all constructed in laying underground telegraph-line wires, substantially as described.

2. The draw-head M, in combination with a series of separate and distinct layers of telegraph-line wires and an insulating entering plate, G, whereby all the wires are drawn and laid in the trunk simultaneously, as described.

3. In underground-telegraph-line wires in which the trunk A is combined with working-vaults C, within which the trunk projects, the combination therewith of the entering guide insulating-plates G for the wires, essentially as described.

4. In combination with the entering guide insulating-plates G, arranged within the trunk terminus D, as described, the tension-adjusting screws F, supported by said plates, substantially as described.

5. The ends D of the trunk-sections within the vault, made flaring, to afford working room between the wires, substantially as herein described.

6. In combination with the flaring projecting ends D of the trunk-sections within the vault, the working openings f' within said sections, to effect the union of the line-wires with the interior ends of the tightening-screws F, as described.

In testimony whereof I have hereunto set my hand this 21st day of February, A. D. 1873, in the presence of two subscribing witnesses.

WILLIAM MACKINTOSH.

Witnesses:

A. E. H. JOHNSON,

J. W. HAMILTON JOHNSON.

A. B. TURNER.
Underground-Telegraph Line.

No. 223,868.

Patented Jan. 27, 1880.

FIG. 1.

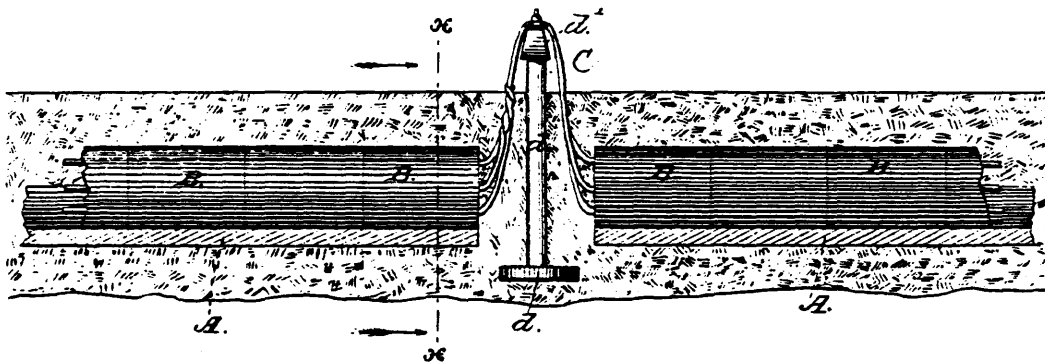


FIG. 2.

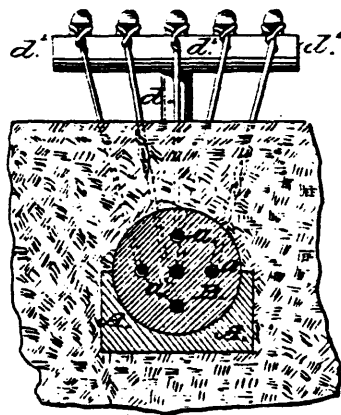
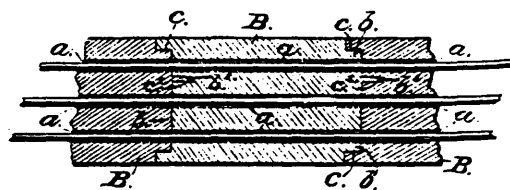


FIG. 3.



WITNESSES:

*Jas. E. Hutchinson.
 James H. Lange.*

INVENTOR.

*Alonzo B. Turner.
 per Edm. Bird.
 Attorneys.*

UNITED STATES PATENT OFFICE.

ALONZO B. TURNER, OF MOUNT SAVAGE, MARYLAND.

UNDERGROUND-TELEGRAPH LINE.

SPECIFICATION forming part of Letters Patent No. 223,868, dated January 27, 1880.
Application filed November 25, 1879.

To all whom it may concern:

Be it known that I, ALONZO B. TURNER, of Mount Savage, in the county of Alleghany and State of Maryland, have invented certain new and useful Improvements in Underground-Telegraph Lines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side view of my improved underground-telegraph line-wire. Fig. 2 is a vertical transverse section on the line *x x* of Fig. 1, and Fig. 3 is a detail longitudinal section thereof.

The same part in the several figures is designated by the same letter.

This invention has relation to improvements in underground-telegraph line-wires, and refers more specially to the insulators which contain or receive the wires, and has for its object to facilitate the laying of the wires, to permit of their ready removal, to protect them from the deleterious effects of air and moisture, to readily detect a breakage in the wires, to test any one or more sections thereof, and to provide for turning corners or forming angles, and to effect the expeditious uniting of the respective sections of the insulator, and to insure the coinciding of the passages or apertures therein through which the wires pass.

The nature of my invention consists of apertured insulators with their apertures or passages for the wires extended longitudinally through them, and provided, each section of insulators, at one end with a projection, and also a pin or tenon, and at its other end with a socket or recess, and a further inlet or aperture, which respectively receive the correspondingly-shaped projection and stud or tenon upon the meeting end of the uniting section, while at certain intervals relays are provided between the insulator-sections, substantially as hereinafter more fully set forth.

Referring to the accompanying drawings, A may represent concaved sections of blocks, of any suitable material, first placed in position in a prepared excavation or ditch in the ground.

B B mark a number of sections of the insu-

lator, which are disposed end to end and placed in the concaved blocks or foundation, as clearly represented in Figs. 1 and 2. These sections may be made of glass, furnace-slag, or any other non-conductor of electricity having the requisite strength and capable of resisting the effects of air and moisture, and may be round, square, or any other desired shape, and of convenient length—say from four to ten feet in length—while the diameter is governed by the number of wires to be accommodated. Through each section of insulator are made as many coincident apertures or passages *a a*, extending in the direction of their length, as the number of wires to be accommodated or passed through them, while one end of each section is provided with a cylindrical or other shaped projection, *b*, and the latter with a tenon or pin, *b'*, and its other end with a similar recess or socket, *c*, and a further inlet or aperture, *c'*. From this construction it will be observed that each section will fit and interlock into the other to prevent its dislocation, while the tenous or pins fitting into their apertures will secure the wire-passages in a coincident plane, whereby the wires can be passed through them without interruption or being intercepted by the meeting edges of the passages as might otherwise occur. By thus insulating the wires each is separate from the other, thoroughly protected and insulated without additional inclosing or wrapping, as has heretofore been the practice in some, if not all, instances, and which is objectionable because of the difficulty to withdraw or remove a defective wire with the insulator-sections in positions underground. With my insulator this difficulty is completely overcome, in that the wires can be inserted and removed with facility, there being no crowding of the wires in their passages by reason of wrappers on the wires.

At certain intervals along the line relays C are provided between the sections of the insulator, consisting of carrying the wires up around insulators upon a cross-piece, *d'*, secured upon a central upright or post, *d*, planted in the ground. These serve to detect a breakage or defect in any of the wires that may arise, to test the same, and to provide for turning corners, or rather forming angles at those points, to correspondingly change the direction of the wires of the line.

The projections *b* on the insulator are each formed by cutting a circular section or annulus from the circumference at one end of each section, thus providing a single projection for uniting and encompassing the whole series of passages or apertures, greatly simplifying construction, that heretofore employed consisting in cutting or providing a separate projection, or rather tube, for each aperture or passage. These insulator-sections can be laid with facility and be cheaply gotten up, which are great desiderata, especially in the construction of telegraph-lines.

Having thus fully described my invention, I claim and desire to secure by Letters Patent—

1. In underground-telegraph lines, the insulator-sections with longitudinal wire passages or apertures extending through them, and having each section at one end a projection, and upon said projection a tenon or pin entering corresponding indentations in the connecting-section, and at the other end a socket with a

further inlet or aperture, into which fit a corresponding projection and pin, substantially as and for the purpose set forth.

2. In underground-telegraph lines, the combination of the insulator-sections with longitudinal passages or apertures extending through them, and provided with interlocking projections and tenons at one end, and at the other end with sockets or recesses and apertures with the line-wires and intermediate relays, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of November, 1879.

A. B. TURNER.

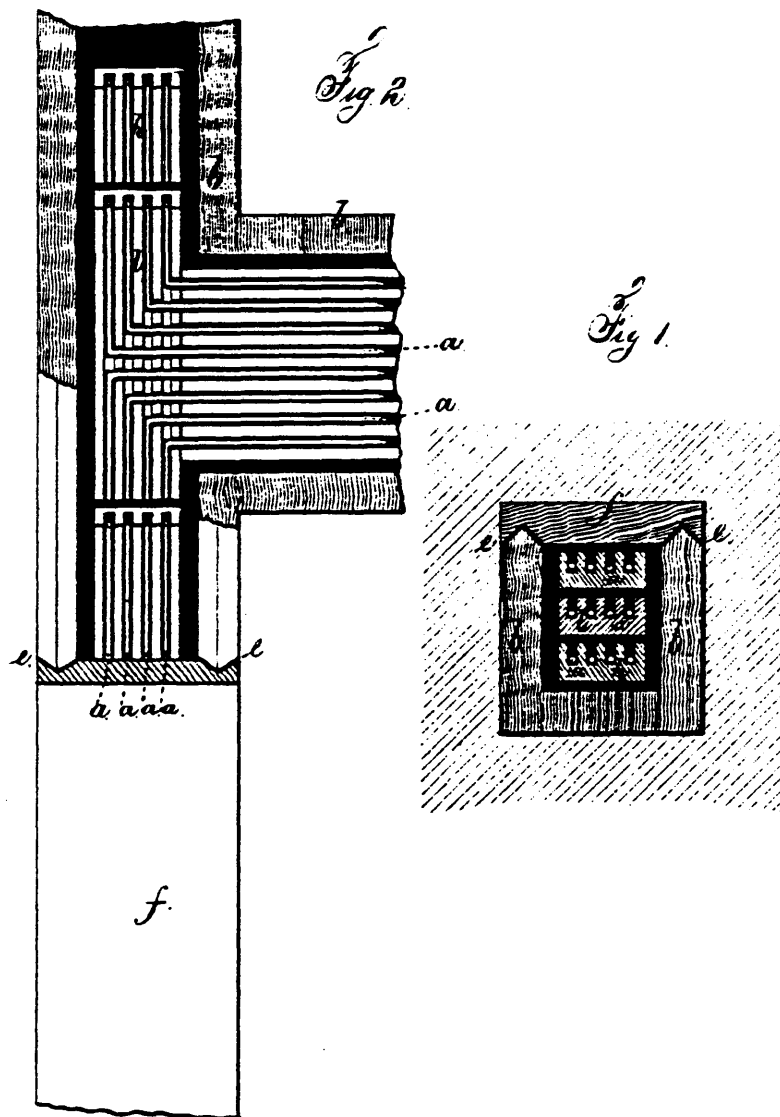
Witnesses:

H. B. SHAFFER,
JOHN LAVELLE.

J. S. PIERSON.
Underground Telegraph Line.

No. 217,479.

Patented July 15, 1879.



Witnesses
Harold Lerrill
Geo. D. Pinckney

Inventor
James S. Pierson
per Lemuel W. Lerrill

UNITED STATES PATENT OFFICE.

JAMES S. PIERSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN UNDERGROUND-TELEGRAPH LINES.

Specification forming part of Letters Patent No. 217,479, dated July 15, 1879; application filed November 22, 1878.

To all whom it may concern:

Be it known that I, JAMES S. PIERSON, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Underground-Telegraph Lines, of which the following is a specification.

Telegraph-wires heretofore laid in the ground have been incased in non-conducting material, and then introduced in tubes. In some instances these tubes have been of metal and laid together in sections.

My invention relates to the means for holding the wires in position, insulating them, and rendering the entire structure water-proof.

In the drawings, Figure 1 is a cross-section of the lines and the inclosing-case; and Fig. 2 is a plan, partially in section, of the case and lines.

The telegraph wires or conductors *a* are of copper or other material, and the size of the underground structure will depend upon the number of conductors.

The case *b* is of either wood, metal, or earthenware. I prefer to make the same of wood thoroughly coated with asphalt. The sections or lengths of case are united by tongues and grooves at *c*, and india-rubber, asphalt, or other yielding material is to be inserted to keep out water, and with metal cases this yields to expansion or contraction from heat or cold. The cover *f* is preferably secured by screws.

A layer of melted native asphalt or bitumen is laid in the case *b*, and upon this a plank or board, *h*, having numerous grooves in its upper surface, and into these grooves the conductors *a* are laid. It is generally best to supply these telegraph-wires from reels that are drawn along the top edge of the pipe or case *b*, and planks or boards *h* are laid successively upon the bitumen, the grooves matching each other.

Melted bitumen or asphalt is poured upon the boards *h*, and in sufficient quantities to

fill the grooves and prevent moisture reaching either the board or the conductors.

A second board, *l*, is laid upon the asphalt while hot, and pressure is applied sufficient to cause an intimate contact between the board and the bitumen.

The grooved boards should be laid so that the joints of one layer come near the middle of the boards of the next layer.

A second range of wires is laid in the grooves in the surfaces of the second layer of boards, *l*, and the filling-in of melted bitumen is made use of, as before described. In this manner several layers are introduced in the case, and then the cover is put on and fastened down, if desired.

The bitumen, being indestructible, entirely water-proof, and slightly elastic, is excellently adapted to the insulation and protection of underground-telegraph lines, and the risk of injury is lessened in consequence of the slight elasticity of the bitumen, because the same will yield and not crack by the settling of the earth or the frost displacing the case containing the conductors.

It is to be understood that it is preferable not to employ the inferior or brittle quality of bitumen or asphalt.

Lateral branches are taken off in the manner represented in Fig. 1, the wires being laid in transverse grooves that correspond to the grooves in the plank that pass off laterally.

I claim as my invention—

In combination with grooved planks or boards and the conductors in such grooves, a filling of asphalt introduced into such grooves and around the boards, substantially as set forth.

Signed by me this 19th day of November, A. D. 1878.

JAMES S. PIERSON.

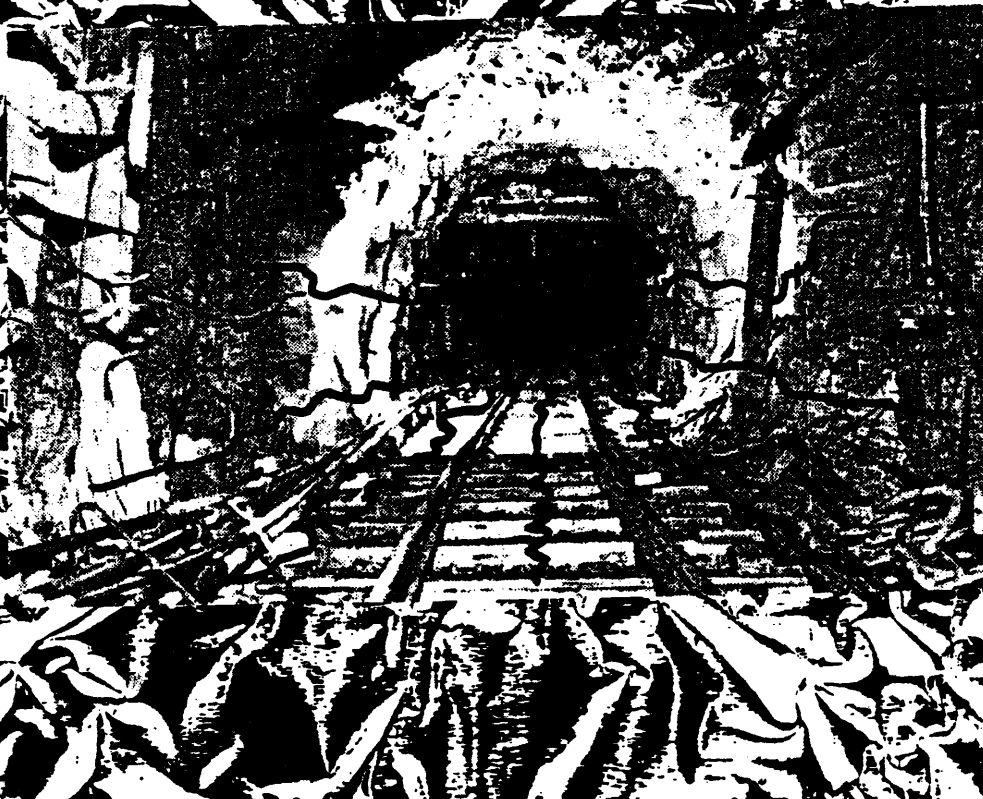
Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.

VRIL THREADWAYS BECKON US DOWNWARD...

TO TUNNEL UNTIL WE LOCATE THEIR CONTINUATIONS...

AND FOLLOW THEM TOWARD THEIR POWERFUL REACTION SITES...



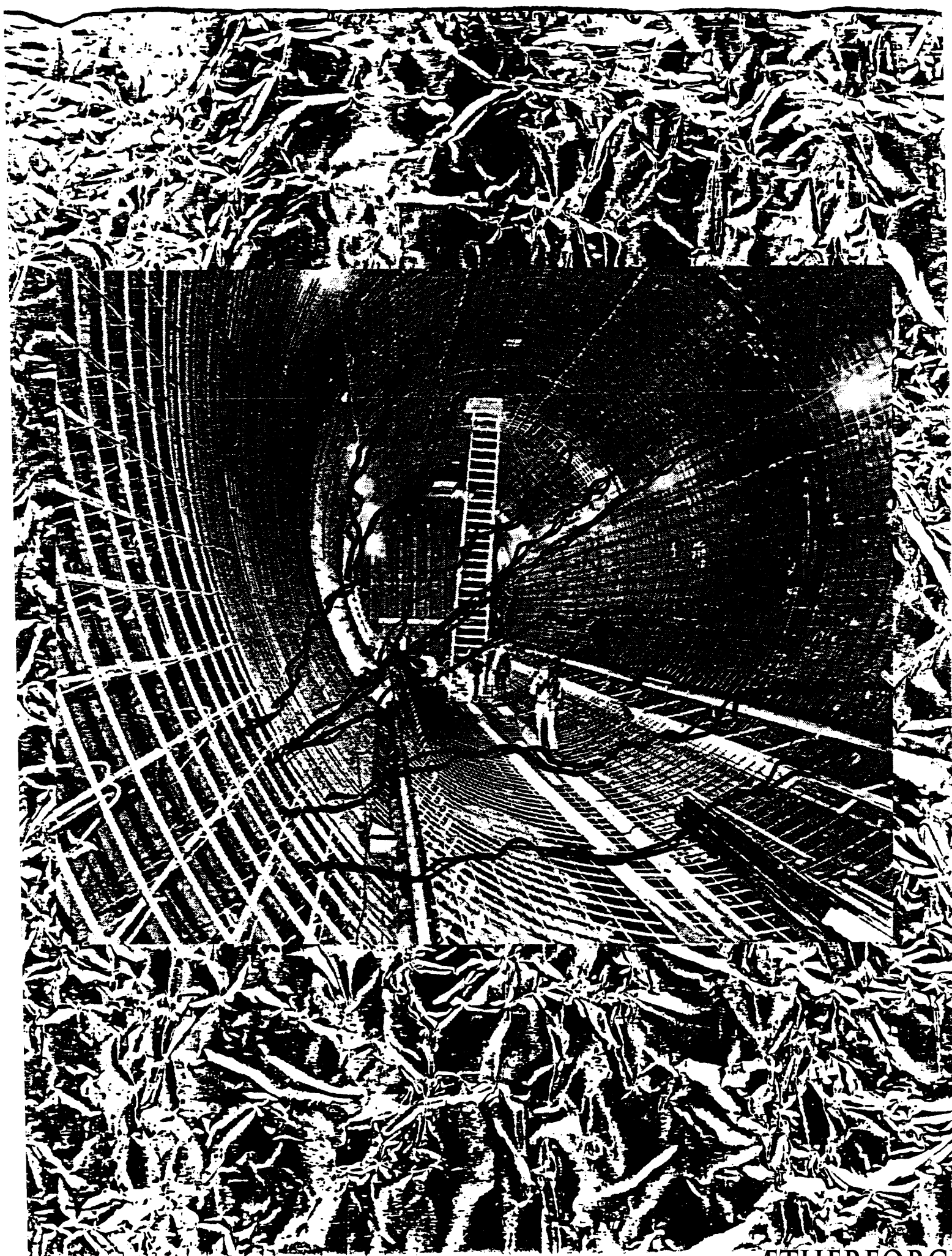
IN RARE INSTANCES WE FIND THAT OUR TUNNELS HAVE INDEED
COINCIDED DIRECTLY WITH THE MAJOR ARTERY OF
THE MAJOR VRIL ARTERY OF A REGION.
SUCH SITES ARE POTENTIAL TRANSMUTORS OF BEING.



ÆTHERFORCE



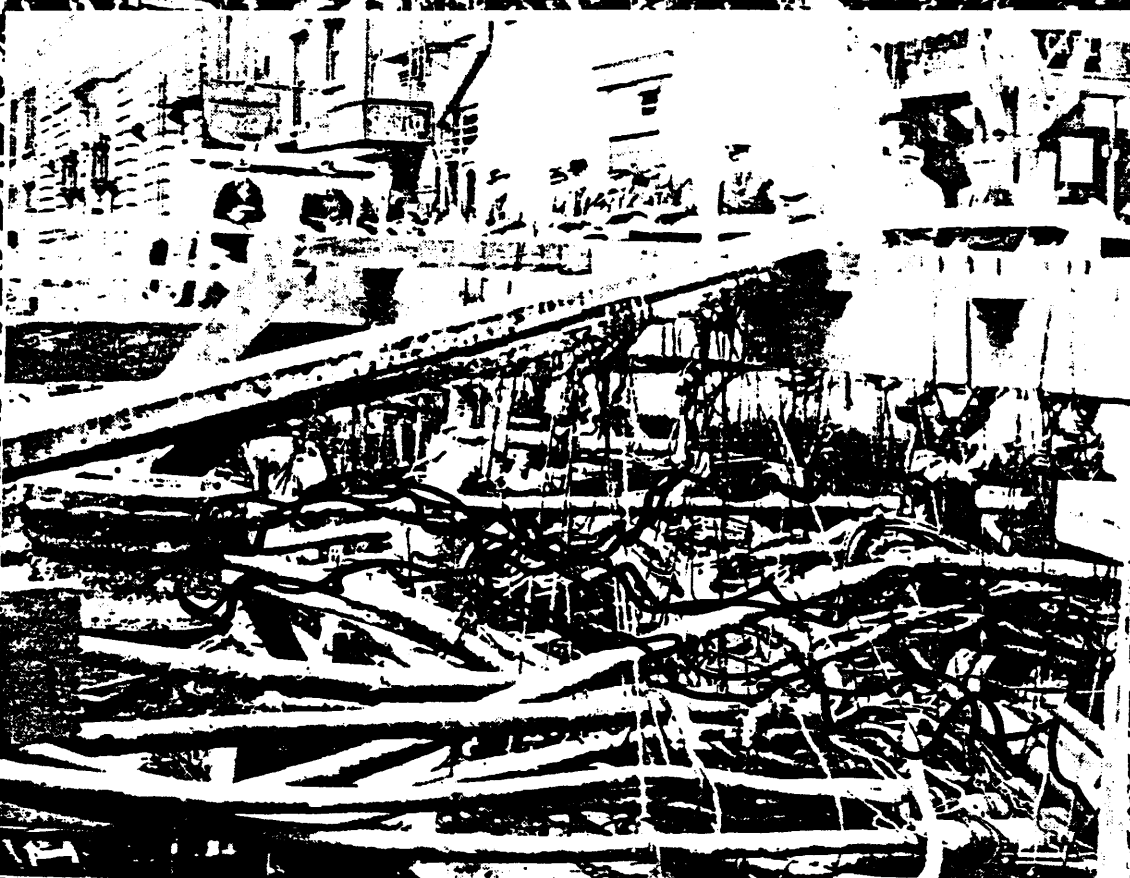
ÆTHERFORCE



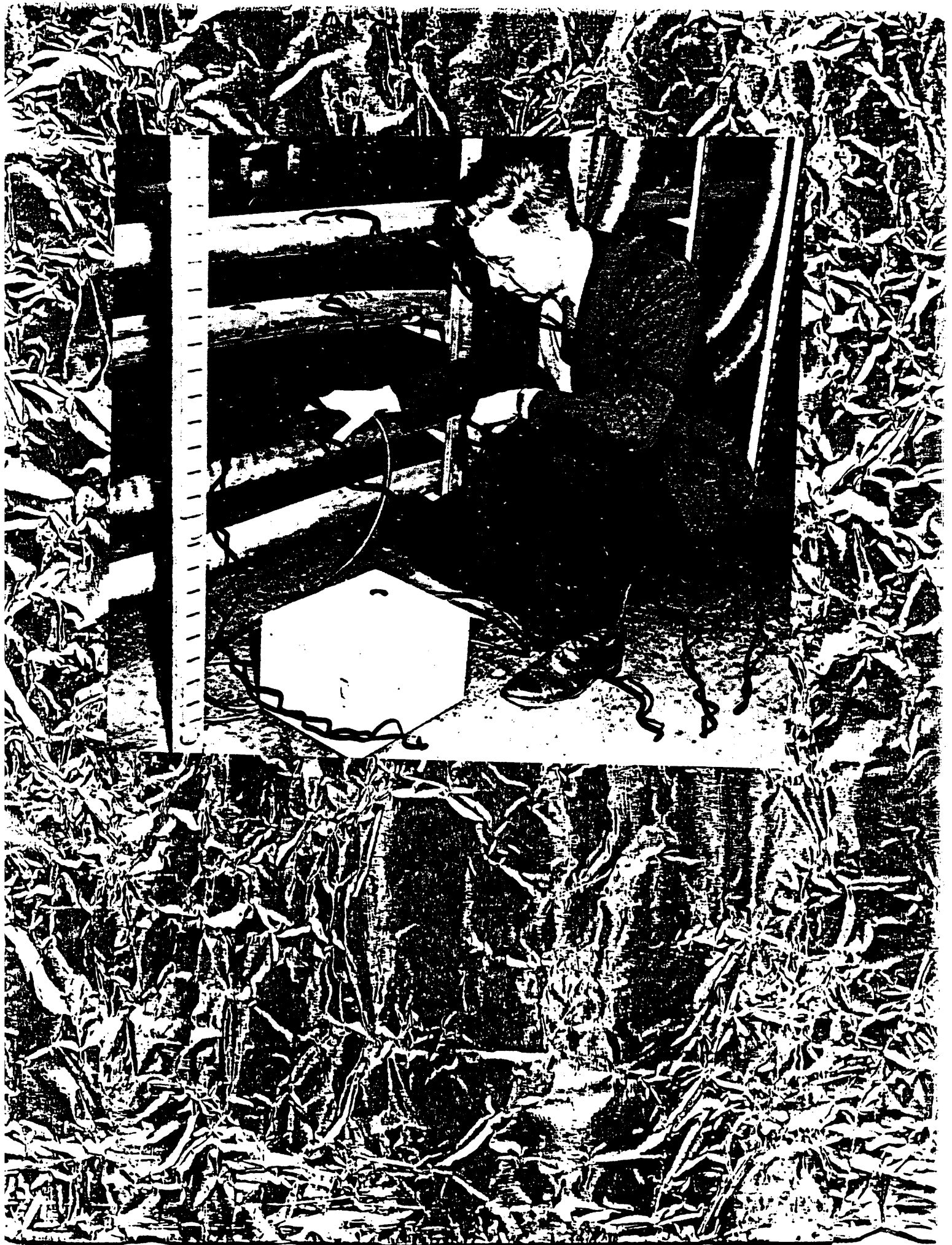
ÆTHERFORCE



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ETHERFORCE



ÆTHERFORCE

Theory of the Earth

PLATE

FIG. 1.

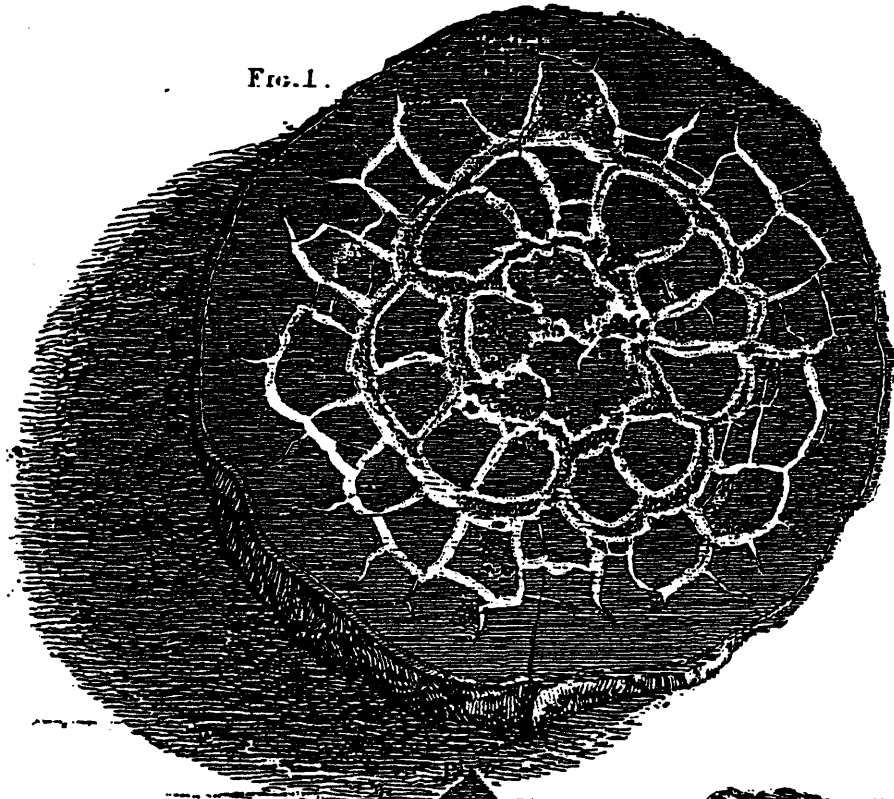


FIG. 3.

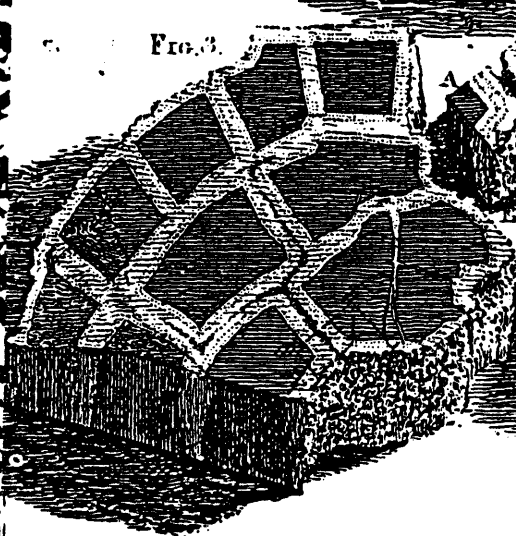
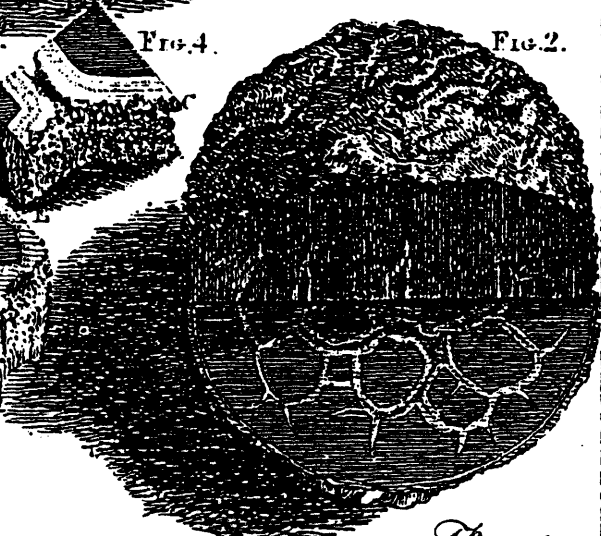


FIG. 4.



FIG. 2.



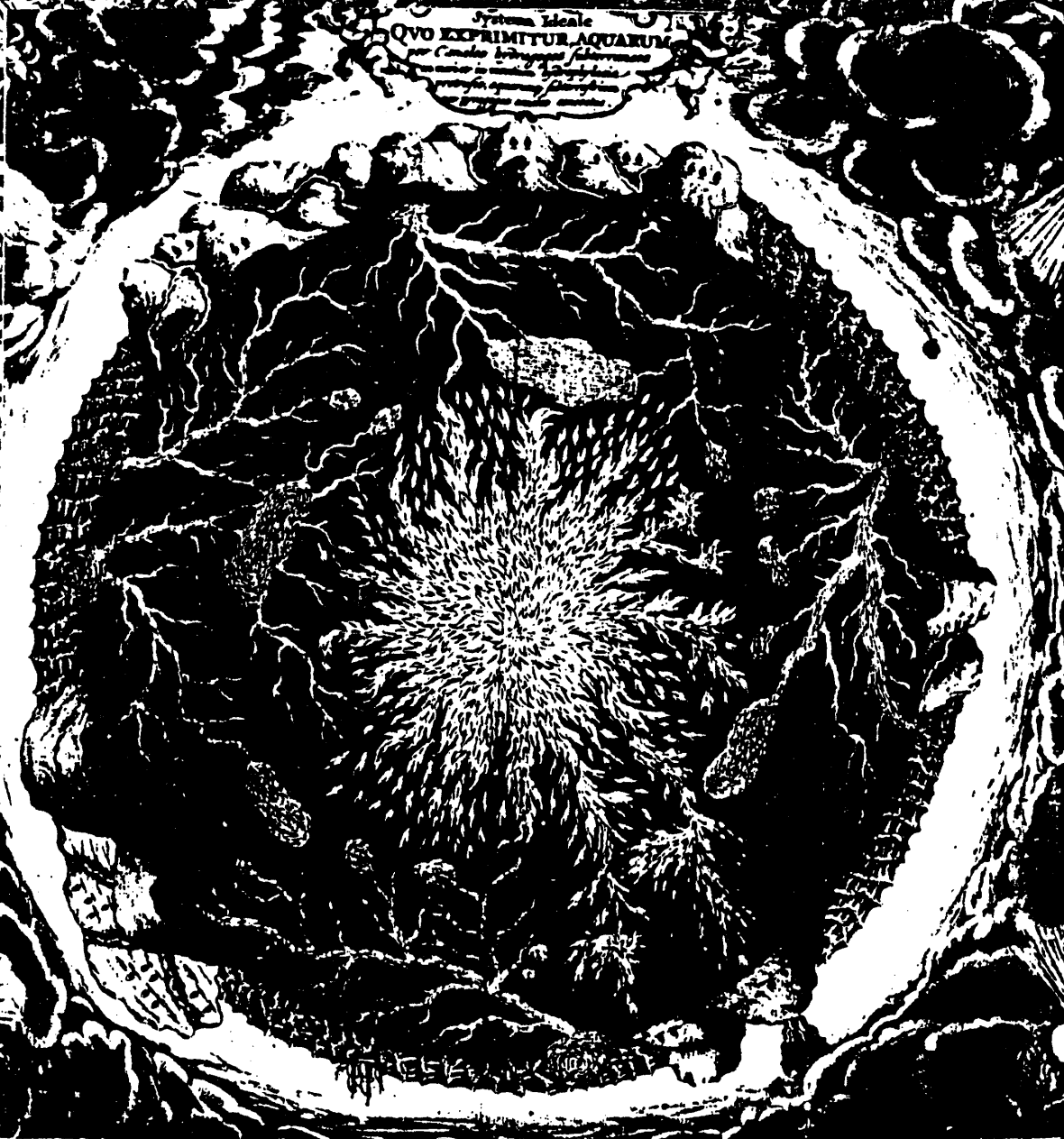
Plasma del. 1890



ÆTHERFORCE



FIGURE 5.1. "Just as blood circulates in the human body, water rises from the sea through underground veins into subterranean fountains from which it issues in springs, losing its saltiness in the process." (Kircher, 1665)



ONE MUST APPRECIATE KIRCHER'S DIAGRAM...NOT AS A CROSS-SECTION
OF A SPHERICAL EARTH...

BUT AS AN OPENED PLATE IMMEDIATELY BEFORE

ONE'S OPENED GAZE...VRIL VISION OF THE GROUND
AND VRIL POURING OUT ACROSS THE EARTH

